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ABSTRACT

The report documents goals and activities of a 2-year project to study the effects of mainstreaming on the preschool child. The first year is said to have been concerned with the development of an observational and coding system for measuring the students' interaction, while the second involved validation of the system. Detailed data on student patterns resulting from mainstreamed placements are provided. Results of parent attitude questionnaires and interviews are discussed, as are results from 23 Head Start staff members. Nearly half the document is composed of five appendixes, including observational and coding guidelines. (CL,

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FINAL REPORT

to the
U.S. Department of Health, Education and Welfare
Office of Human Development
Administration for Children, Youth and Families

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# PILOT STUDY OF THE EFFICACY OF MAINSTREAMING -- INTEGRATING HANDICAPPED CHILDREN

Barbara Schwartz -- Project Coordinator

Ora Ezrachi -- Data Analyst

Ronnie Gordon -- Project Director

Amy Lawrence -- Assistant to
Project Director

NEW YORK UNIVERSITY MEDICAL CENTER
Institute of Rehabilitation Medicine
400 East 34th Street
New York, New York 10016

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## INTRODUCTION

Within the short period of the past few years, there has been intense and widespread emphasis on "mainstreaming"--the integration of handicapped children into classrooms traditionally designed and staffed for educating their "normal" peers (Birch, 1976). Federal mandates, state-by-state legislation, and court decisions (Gilhool, 1975) have precipitated such policy changes (Abeson, 1976). Although the benefits of mainstreaming are widely expounded (Doran, 1975; Milofsky, 1977; Soeffing, 1974), the means/costs/needs/benefits have not clearly been defined (Budoff, 1975) nor adequately studied in terms of the preschool population (Wynne, Ulfelder, & Dakof, 1975). As is often the case, a new educational practice has taken hold without prior validation of the need for, or the benefit to, the implementation of a program based on such practices for the handicapped and normal young child (Martin, 1974; Mesibov, 1976). Many questions can be raised and should be explored in order to determine the value of this kind of preschool experience for children and their families and ways in which it affects the lives of the children, their parents, and their teachers.

1. Are the effects of mainstreaming evident in the observable patterns of interactions within the classroom: (a) Do physically handicapped children in specialized settings for the handicapped exhibit behaviors which significantly differ from behaviors exhibited by handicapped children in integrated settings? (b) How do handicapped children differ from their normal peers? Is it in the way they become engaged in interactions? Is it manifested in the quality of their interactions?

2. Are the attitudes of parents towards mainstreaming and the handicapped generally reflected in questionnaires and/or interviews: (a) Do the attitudes of parents of handicapped and nonhandicapped children differ in terms of the way they perceive the handicapped in general: How do they feel about mainstreaming? Do these vary from setting to setting? (b) Which yields the most valuable information on attitudes toward the handicapped and mainstreaming--questionnaires or interviews?

3. Are the reactions of educators of handicapped and normal preschool children toward the handicapped, in general, and to mainstreaming, in particular, dependent upon the setting in which they work: (a) What are their feelings about mainstreaming? (b) What types of programmatic changes do they state as being needed for effective mainstreaming?

We at the Institute of Rehabilitation Medicine are involved with the education of handicapped children. For over 16 years our involvement has encompassed the design and delivery of direct educational and developmental therapy to multihandicapped children who range in age from 18 months to 6 years. Our interest in mainstreaming, however, is an outgrowth of our work with these children and our responsibility to select the optimum referral when child and parent are ready to move on from our programs.

The Preschool and Infant Developmental Programs are an integral part of the rehabilitation program at the Institute of Rehabilitation Medicine. In 1962 the preschool program was instituted for children from three to six years who were patients in the hospital. A specially designed learning laboratory was opened in 1968 to accommodate the educational needs of children with different degrees of physical handicapped conditions. A second classroom for children below the age of three was established in 1969. The Infant School provides intensive stimulation for an average duration of 3 months to rotating groups of four children. In addition, we offer three out-patient programs. Two of these programs meet two afternoons per week. Each of these groupings is organized along developmental guidelines with the consideration of the educational, social, and emotional needs of the children. Many of the children in these programs are referred directly from our in-patient programs, while others enter the programs directly by way of a wide variety of third-party referrals. A third program meets one afternoon per week and serves primarily as an interim follow-up for the severely delayed children who are discharged from the infant program but are not yet developmentally and/or chronologically able to be referred to an extended program.

As each child moves on from our program (there have been over 950 children referred in the past 15 years), we carefully consider the available options of various educational settings in view of the child's present educational status and parents' agreement. These options are: (1) Referral to our own out-patient preschool or infant programs; (2) Referral to other programs designed for children with "special needs"; (3) Referral to regular preschool programs (Day Care, Head Start, laboratory preschools, private, or public nursery schools), which are willing to accept a physically handicapped child. When needed and possible, we provide ongoing consultation and support from our clinical staff.

Based upon our past experience with referral, it seemed a natural step for us to attempt to develop a system to examine the differential effects, for the handicapped child, of placement in an integrated setting as opposed to placement in a special setting. Although we trust our own clinical judgments, there would seem to be both value and efficacy in an observational system which might have the potential of tracking interactional patterns in the classroom, and thus present a picture of what the child was learning and experiencing.

Second, we shared the concern of educational centers who were questioning their current ability to deliver quality services effectively to normal children while mainstreaming multihandicapped young children. We were also interested in exploring the attitudes and feelings of the parents of all the children, as well as the attitudes and needs of the educational staff.

## Related Research

Although there have been many position papers on mainstreaming and its expected impact on children and the educational system (Doran, 1975; Gorelick, 1974; Hall, 1975; Milofsky, 1977; Reger, 1974; Soeffing, 1974), systematic research on the benefits has been sparse when considering the preschool child

# CHILDREN

The primary focus of our study was the development of an observational instrument which could identify patterns of interaction between and among groups of normal and handicapped preschool children. During Year I, data were collected for the purpose of delineating the salient behaviors and the optimum procedures to use in the study of the preschool child. An observational system was developed. In Year II this system was validated, and the differences among groups of children were studied. The first section of this report will present the system which was developed and the patterns which emerged as we applied this system to normal and handicapped preschool children.

Following this, two separate sections will present the data on the parents and the educators who were involved with these children. Both of these sections will present the data collected during the past two years regarding the attitudes of parents and educators toward mainstreaming.

## CHILDREN

To study the impact of mainstreaming on the preschool-aged child, one cannot rely on the conventional methods used to study attitudinal change--the questionnaire or interview. For the young child the attitudes, feelings, and competences are revealed in his pattern of interactions with peers, adults, and materials. During Year I, primary objectives were the development of an observational methodology and coding system which could both capture these subtle patterns and lend itself to quantification for the purpose of analysis. A secondary interest was to refine a brief evaluative method which could be used to assess the current competencies (i.e., achievement level of normal and handicapped preschool-age children who ranged in age developmentally and functionally from 30 to 72 months). In Year II the focus was upon the validation of the coding system and the examination of patterns of change in normal and handicapped preschool children.

### The Development of an Observational System

In the process of developing an observational instrument to meet our specific interests (i.e., applicable to preschool normal and handicapped children), we reviewed available instruments (Boyer & Cunningham, 1973; Ross, Zimiles, & Gerstein, 1975; Smith & Connolly, 1972), and then followed the procedures outlined by Connolly (Note 1 ). These were to: (1) observe individual children and record their ongoing behaviors, (2) extract salient behaviors, (3) use this listing when observing, (4) modify this list based on observations. Using observations of several afternoon sessions of the outpatient preschool at IRM and the behaviors which others, such as those cited above had used, 85 different categories of behaviors were noted. Some could be easily tabulated (e.g., smile, laugh, cry), while others involved interpretation of a qualitative nature (e.g., passivity, approaching, or directing). Using this list, a second set of six 5-minute observations were recorded in two Head Start centers. These were compared with 10 observations in two other Head Start settings using a modified form of the Differentiated Child Behavior protocol (DCB) (Ross, Zimiles, & Gerstein, 1975). While the

narrative observations based upon specified listings of behaviors, yielded a clear picture of the milieu, the DCB contained categories of behaviors which could be relevant if our primary interest were on cognitive levels, dramatic play, or expressions of negative behavior. However, the DCB did not delineate behaviors with regard to children's work with specific educational tasks on the manipulative level, since it was designed to focus on cognitive behaviors as expressed in children's verbal interactions.

Finally, we re-examined a system developed by this department to study the patterns of change in young multihandicapped children from 18 to 36 months (Gordon et al., 1975). The system encompassed seven psycho-educational dimensions, many of which were more appropriate for the multihandicapped child below three, rather than the preschooler from three to five. For example, the examination of the presence of affective response or gross motor skills, which was an emergent behavior for the multihandicapped child below three, was well developed and in almost all cases appropriate in the 3- to 5-year-old population. Second, the method of data collection, records written by the child's teacher three mornings a week, would be too cumbersome a responsibility for either a teacher or an outside observer to maintain on 10 children in a class. During this study, we had also validated the use of narrative records by highly trained outside observers as a source of data (Gordon, Gitler, Schwartz, Ezrachi, & Brenner, 1975; Gitler & Gordon, in press).

In summary, the available coding systems proved (a) not to be sensitive enough to the subtle differences in the quality of interactions, (b) not applicable to observations focusing on both social interactions and interactions with material, and (c) not able to cover the wide range of behaviors of children both handicapped and nonhandicapped and ranging in age from 3½ to 5½ years old.

Thus, the primary source of data became the observational record rather than a behavioral checklist. This record was a rich, detailed comprehensive record of a child's behavior. Observers were to record on-the-spot by narrating into a pocket-sized tape recorder the child's ongoing activities over a 5-minute period. The order in which the children in a given class were observed was randomized and predetermined for each visit. (See Appendix I for detailed observational procedures.)

Each observer was instructed to give a finely delineated picture of the behavior present with the understanding that these records would be coded at a later date by themselves or, more likely, by others. Therefore, details of all the children's actions and reactions, sounds, language, facial expressions, bodily postures, and gestures were to be precisely noted, since they not only contributed to a clearer picture of how the child presents himself to others but also provide sufficient data for coding. All aspects of these interactions were incorporated: how the interaction began; what transpired; the reaction or responsiveness of people, including the child's interest or awareness of the presence of others or of materials. Continuous descriptions enabled one to see how much follow-through a child in activities. Equally important was the sequence in which the child's involvements occur. That is, were they consecutive, as, for example, "Christine puts the roof on the doll house, then begins painting at the nearby easel";

or were they simultaneous, with more than one involvement taking place at the same time, as in, "Andrew is talking to Eric while looking over his shoulder at the teacher who's fixing snack."

When a series of observations was complete, they were transcribed, then carefully edited by the observer to clarify sequences of actions, the extent of involvement with others, or the nature of the child's use of materials.

## Refinement of a Procedure to Measure Level of Competency

We had originally proposed to videotape children as they worked with 10 educational materials. Previous work in this setting (Gordon et al., 1975) had indicated that the mean age level derived from a sample of the child's work with educational material was highly correlated with MA ($p < .001$). The materials and tasks used for this, however, were designed for children who were both younger and for the most part more involved motorically than those children enrolled in Head Start and Day Care programs. Our intention was to develop a methodology to assess simply the child's highest level of competence by working with materials which could be modified and adapted to meet the cognitive and motoric abilities of children varying in age from 3½ to 5½ years. Like Jedrysek, Klapper, Polk, and Wortis (1972), our intention was to focus upon "functional analysis and achievement capacity." However, unlike Jedrysk et al., who carefully avoided normative data, we were interested in developing a measure which could compare and contrast competence and performance with that derived from other sources of data (e.g., psychometric testing).

Six materials were selected based on the range of potential tasks and the competencies which they would reveal. Work with unstructured materials (e.g., sand and water) was eliminated for the obvious reason of difficulty in transporting the necessary equipment from center to center.

Based upon the experiences of our staff and previous research in this setting (Gordon, White, & Diller, 1972), the following materials were selected:

1. Bead Stair--five poles ascending with from 1 to 5 beads, each pole containing a different color bead (e.g., 5 red, 4 yellow, etc.).

2. Shape Sorting Box--wooden form box with hinged top with five cut-outs: circle, square, rectangle, triangle, ⊐ shape.

3. Montessori Cylinders--10 cylinders graded in diameter.

4. Simplex Puzzle of Familiar Objects--clock, cat, house, etc., in a hardwood frame.

5. Boy-Girl Puzzle--two figures alongside one another with removable heads, clothes, straight arm, bent arm and legs. When clothes are removed, figures are shown undressed.

6. Face Plaques--eight pairs of plaques with varying facial features.

The examiner presented each of the six materials in a random order, beginning with a task judged to be appropriate to the child's developmental level (based upon observation of the child in the classroom) and according to the child's physical limitation. The degree of competence exhibited by the child in response to the first material enabled the examiner to modify each succeeding task. Presentation, with subsequent modification, permitted the examiner to explore and determine the child's optimal level of functioning.

## Collection of Data: Year I

### Settings

Using the procedures outlined above, data were collected in three mainstreamed classrooms and two specialized settings for handicapped children (a second specialized setting was added midway in the year to generate additional data on the variety of behaviors exhibited by handicapped children). These settings included:

1. A laboratory school in a college setting with a multi

2. A Head Start center in a low-middle income, ethnically mixed neighborhood on the West Side of Manhattan.

3. A Day Care center with several mainstramed classrooms, one of which was included in the study, and a specialized handicapped group, also included in this study.

4. A preschool classroom within a center for the habilitation of the handicapped.

### Subjects

In each of the three integrated settings, one physically handicapped and eight normal children were selected for study. A total of 13 handicapped children in specialized settings were selected, seven in one class and six in the other. That is, data were collected on 24 normal and 16 handicapped children. A sizeable sample of handicapped children was included to generate data representing the wide range of behaviors and levels of functioning found in this population. The children ranged in age from 34 to 75 months, with MA's ranging from 12 to 78+ months. Table 1 presents a summary of demographic data for the normal and handicapped population during Year I (complete demographic data including medical diagnoses are found in Table I, Appendix III).

## Development of a Scoreable Protocol to Measure Level of Competence

During the course of the first year of the study, 24 normal and 16 handicapped children in five settings were videotaped (see Table 1 , Appendix III). The videotapes of 10 children were screened following the procedures developed by Gordon et al. (1975) and scored along three psychoeducational domains,

Table 1

DEMOGRAPHIC DATA: YEAR I

| | No. | SEX M | SEX F | C.A. RANGE (Years-Months) | $\bar{x}$ | SD | M.A. RANGE (Years-Months) | $\bar{x}$ | SD | ETHNICITY Blk. | ETHNICITY Wh. | ETHNICITY Hisp. | ETHNICITY Other | SES Low/P.A. | SES Middle | SES High |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Handicapped | 16 | 8 | 8 | 2-10 to 6-4 | 4-7 (55.2 mo.) | 14.10 | 1-0 to 5-0 | 2-10 (33.8 mo.) | 14.11 | 56% | 19% | 25% | 0 | 75% | 25% | 0 |
| Non-Handicapped | 24 | 14 | 10 | 3-3 to 5-8 | 4-4 (51.7 mo.) | 8.22 | 3-1 to 6-8 | 5-2 (62.4 mo.) | 11.40 | 46% | 38% | 4% | 13% | 42% | 58% | 0 |

including the children's work with materials. However, since this was an older population, the previously developed scoring system proved not to be appropriate. Second, the portable video-camera and microphone could not clearly pick up subtle pieces of behavior and language. Viewing the remaining 31 videotapes, a protocol was thus developed which incorporated all possible tasks and modifications of tasks (Items 1-8, Appendix II). It also had the advantage of being scoreable at the time of testing. This both freed the time of one staff member (from handling the videotape equipment) and also eliminated the extensive time to review and score a child's performance from the videotape (each half-hour session required one hour for viewing and scoring).

### Scoring of Work Samples--Determining Age Levels

The protocols for each child were reviewed, noting the child's highest level of performance for each material (ceiling age levels are indicated on Items 9-14, Appendix II. Ceiling age levels were then assigned to these tasks. A ceiling age level was defined as the upper limit of a 6-month range of expected completion. The ceiling age levels for the Montessori Cylinders and Form Sorting Box were based upon the results of a study completed by this department (Gordon et al., 1972), using these materials to determine competence and response styles of handicapped and nonhandicapped children age 2½ to 6 years in a special setting, middle-class preschool, and Head Start centers.

The age levels for 30% of the remaining tasks had been previously validated against MA scores (Gordon et al., 1975), and through comparable items on standardized tests. Joint clinical decisions between the master teacher in the preschool program at IRM and the pediatric psychologist of the Children's Division were used for the remaining tasks (procedure validated in Gordon et al., 1975).

## The Reliability of the Observational Procedures

### Training of Observers

Observational data were collected by three individuals. The primary trainer was an experienced observer who had worked with this staff on previous observational studies and had also taught normal and handicapped preschool children. The other two observers had similar backgrounds, including an understanding of child development.

For training purposes each of the two trainees observed and wrote detailed records on three children in the nursery school of IRM over a two-day period. This was followed by several days of observing, using the handheld tape recorder (Norelco, Model No. 0095), which would be used in the field observations. The trained observer simultaneously recorded observations in the adjoining observation room. All observations were transcribed and reviewed. Observers were judged to be competent for field observations when their observations were matched with the trained observer and found to include all activities and participants in the same sequence and with sufficient detail as to clearly interpret the nature of each interaction.

## Interobserver Reliability

Each of the observers accompanied the trained observer to each of the four settings. (The fifth setting was added later in the study.) A minimum of three children in each setting were simultaneously observed by each pair (trainer and trainee). The observations were transcribed and corrected. A total of 17 paired observations were collected in four settings (one specialized and three mainstreamed). Each set of paired observations was coded within each of the four preliminary dimensions (source, direction, mode, quality) by each of the observers in order to control for any coding differences (see Appendix I for coding procedures). Trainees were considered trained observers when interobserver agreement in the major categories reached 80%. The means of interobserver reliability based upon 17 observations in four classrooms ranged from 82% to 96% (see Table 2, Appendix III).

With preliminary observer reliability established for Year I, 538 observations were collected in the five settings. These observations were to form the basis upon which the initial preliminary coding categories would be refined and then validated.

## Development of a Coding System

As stated previously, the focus of our work during the first year of the project was the development of a system which (a) was sensitive to the differences between normal and handicapped preschool children, and (b) was refined enough to yield consistency among coders.

The coding system which evolved during Year I was an outgrowth of the collaborative efforts of the educational staff of our preschool and infant developmental programs and the research staff. The educational staff represents individuals with extensive background in working with normal and handicapped children from 15 months to 6 years. Meeting with this staff, the following criteria for assessing a child's functioning were established: (1) the ability of the child to communicate needs, desires, plans, or intentions to others; (2) the extent to which a child initiates, continues, returns to, or is distracted from interactions; (3) the child's interest in people and materials; (4) the ability of the child to respond to other's initiatives; (5) the extent to which the child focuses on tasks and extends the use of materials.

This can best be conceptualized as:

1. What has caused a particular behavior to occur? Was it initiated by the child or elicited by another? What is the SOURCE of the child's actions?

2. To whom or to what is the child directing his/her actions? What is the DIRECTION of the behavior?

3. How is the child interacting with others or with materials? Is it visually, verbally, nonverbally? What MODE does the child use?

4. How involved or interested is the child in social interactions with people? Are others responsive to the child's social overtures? What is the QUALITY of the child's social interactions? What is his level of INTENSITY and RECIPROCITY?

5. How involved is the child with educational activities and materials? How effectively does the child use materials? Is the child's use appropriate for the material or task? What is the QUALITY of the child's interaction with materials? What is his level of INTENSITY and USE?

With these questions in mind, the observational records were examined and a coding system emerged which had four major domains: SOURCE, DIRECTION, MODE, and QUALITY. Using these domains and categories within them, sets of four observations were simultaneously coded by the three coders (observers) following the procedures outlined in the coding manual (Appendix I). Categories with low intercoder agreement (initially below 60%) were discussed at staff meetings. Poor agreement led to the realization that a particular category was too vague, overlapped with another, or was not well defined and therefore needed further refinement. Categories were added and deleted, and a system evolved which was consistent with the pattern of functioning typical of normal and handicapped preschool children.

## The Coding System

See Appendix I for complete Coding Manual.

| DIMENSIONS | CATEGORIES |
|---|---|
| I. SOURCE--the impetus for the child's actions.<br><br>Categories are nonhierarchical. | Self-generated<br>Ongoing<br>Returning<br>Reactive<br>Elicited |
| II. DIRECTION--the person or object to which the behavior is directed. Categories are nonhierarchical. | Materials:<br>Educational materials<br>Educational equipment<br><br>Children:<br>Child<br>Handicapped child<br>Group<br><br>Adults:<br>Teacher<br>Observer<br>Other adult |

| DIMENSIONS | CATEGORIES |
|---|---|
| III. MODE--the modality in which the child interacts<br><br>Categories are nonhierarchical. | Vocalizations:<br>Verbal<br>Play noise/singing<br>Affect<br><br>Nonverbal:<br>Gestural<br>Facial expressions<br><br>Visual<br>Motoric<br>Sensory/tactile<br>Auditory<br>None |
| IV. QUALITY--the intensity and type of involvement in an interaction. Divided into those relating to others (SOCIAL) and those related to MATERIALS. Levels within each of the four categories are hierarchically ordered. | |
| A. SOCIAL: | INTENSITY<br><br>1. No interest<br>2. Minimal involvement<br>3. Moderate degree of initiative<br>4. Extended effort or initiative<br>5. Persistent, assertive, elaborated involvement |
| | RECIPROCITY<br><br>1. None<br>2. Passive, limited responsiveness<br>3. Balanced, polite interchange<br>4. Cooperative, ongoing communication, conversation<br>5. Concerned, responsive interchange indicating camaraderie |

| DIMENSIONS | CATEGORIES |
|---|---|
| B. MATERIALS: | INTENSITY<br>1. No interest<br>2. Minimal or limited involvement<br>3. Moderate or average involvement<br>4. Extended interest<br>5. Heightened interest<br><br>USE<br>1. None<br>2. Minimal awareness of goal<br>3. Working toward goal<br>4. Awareness of task demands and completing task<br>5. Creative, imaginative use |

## Validating the Coding System

The issues which next concerned us were those of:

1. Observer Reliability: Is it possible to train an individual to use this system? Did the same profiles of the child emerge from two simultaneous observations?

2. Coder Reliability: Given the same observation, can two coders categorize a particular interactional unit similarly in each of the dimensions?

3. Validation: Does the instrument differentiate among groups of children? To what degree can groups be differentiated?

4. Measurement: Can the instrument determine in which categories within a given dimension change occurred during the course of a year? Could the instrument determine whether changes that occurred were in the same direction for each of the groups?

### Procedures for Validating the System

Selection of Settings. To validate the system we were interested in studying preschool classrooms which had mainstreamed physically handicapped children, a specialized setting only for physically handicapped children, and a classroom which did not contain any physically handicapped children. The

mainstreamed settings (five) used in Year II were selected from among schools to which referral had been made by the staff at IRM. The specialized setting for handicapped children and the nonmainstreamed setting, normal group were both selected on the basis of their geographic proximity and the extent to which they shared a common educational philosophy. All classrooms shared what can best be termed a cognitively oriented curriculum based upon the "developmental interaction approach" of Biber, Shapiro, and Wickens (1973). The seven settings in which observations were collected for the purpose of instrument validation are briefly described below.

Settings. The specialized setting was a classroom within an early education center for multihandicapped children who have a variety of developmental and physical disabilities. It is set in an urban facility whose other components serve individuals of varying ages with physical disabilities. (Note 2)

The normal setting was a Head Start nursery school in an area on the Lower East Side of Manhattan which has a large Oriental population. It is located within a community-based center.

Two of the five mainstreamed classrooms were within one Head Start center in an ethnically mixed, lower SES area in Manhattan. Each classroom contained one child with an observable physical handicap (mild cerebral palsy, congenital amputee). Another of the integrated settings was a nursery school classroom within a day care center on the Upper West Side of Manhattan, in which a child with cerebral palsy was enrolled. A laboratory preschool with two observably handicapped children located within a local college served as another site. One of the handicapped children was diagnosed as cerebral palsy as the sequelae of meningitis. The other handicapped child in this class was blind. The fifth integrated classroom was located in a community-based YMCA on the outskirts of Manhattan, close to suburban Nassau County. The handicapped child who attended this program was diagnosed as mild cerebral palsy.

Subjects. Experience during Year I had forewarned us to expect a large rate of attrition and absenteeism, particularly among the handicapped children. Allowing for this, the final sample of children observed during Year II was 12% larger than had originally been projected, with 10 children initially selected for study in each of the classrooms. The breakdown of the number of children observed in each setting and complete demographic data on the 63 children in the final sample are presented in Table 3, Appendix III. From among the entire sample observed (N = 63), four groups of children were delineated for study:

1. Handicapped preschool children integrated into settings for nonhandicapped children (N = 6) (MAIN).

2. Nonhandicapped preschool children from a setting in which no children with physical handicaps were enrolled (N = 9) (NORM).

3. Handicapped children attending a specialized school for the handicapped (N = 7) (SPEC).

4. A subset of nonhandicapped children, two from each of the integrated settings, matched demographically to the handicapped children integrated into those settings (N = 10) (NI).

The chronological ages (months) for the children in the four groups ranged from 40 to 65 in the SPEC group with a mean of 54; the MAIN group had a mean of 48 and ranged from 43 to 58; the NORM group CA's ranged from 51 to 60 with a mean of 57; the mean CA for children in the NI group was 46 and ranged from 33 to 60. The NORM group was found to be significantly older than both the MAIN ($U = 48.5$, $p < .01$) and NI children ($U = 75$, $p < .01$).

All subjects were tested using the Merrill Palmer Scale of Mental Tests which is applicable to children within the span of CA's represented among all settings. The MA's (in months) ranged from 26 to 62, with a mean of 44 for the handicapped children who were integrated (MAIN) and from 21 to 61, with a mean of 36 for the handicapped children in the special setting (SPEC). The MA levels for the normals in a nonintegrated classroom (NORM) ranged from 56 to 77, with a mean MA of 63. The normals in the integrated subset (NI) had a mean MA of 53, with scores ranging from 38 to 71. The NORM group was found to have significantly higher MA scores than the other three groups (SPEC: $U = 15$, $p < .002$; MAIN: $U = 33.5$, $p < .02$; NI: $U = 80$, $p < .004$). Also, NI group MA scores were significantly higher than MA scores for SPEC ($U = 11$, $p < .02$). Table 2 presents this demographic data.

Children were also tested using the psychoeducational battery refined during Year I. To arrive at a mean age level of competence the clinically determined age levels developed during Year I were assigned to each child's performance on each of the six tasks: bead stair, shape sorting box, Montessori cylinders, simplex puzzle, boy-girl puzzle, and face plaques. This average level is a reflection of a child's typical performance with materials conventionally found in the classroom. The performance of the handicapped children tested ranged from 25 to 52 months, with a mean of 39. For normal children the average range across tasks was from 40 to 52 months, with a mean of 47 months. The overall mean age level was significantly correlated with MA and CA in both the handicapped and nonhandicapped children (see Table 4, Appendix III).Further examination of the data indicated that in the nonhandicapped group age level performance on each of the materials was correlated with both MA and CA. In the handicapped group: (1) performance on the bead hair, shape sorting box, and Montessori cylinders was correlated with both MA and CA; (2) performance on the simplex puzzle correlated only with MA; and (3) performance on the boy-girl puzzle and face plaques was not correlated with either MA or CA.

This information appears to underscore the utility of this measure. Age levels based on performance with educational materials were found to be correlated with MA. Using these materials, therefore, the preschool classroom teacher may obtain information that is congruent with information obtained from standardized psychological testing, as well as information that can help to determine a child's areas of strengths and weaknesses.

Collection and Coding of Observational Data. As in Year I, prior to beginning observations, consent was obtained from the parents of each child who had been selected to participate. This consent was obtained in the parents' native language--English, Spanish, or Chinese.

Table 2

DEMOGRAPHIC DATA: YEAR II

| | No. | M | F | C.A. RANGE (Years-Months) | $\bar{x}$ | SD | M.A. RANGE (Years-Months) | $\bar{x}$ | SD | ETHNICITY Blk. | Wh. | Hisp. | Other | SES Low/P.A | Middle | High |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NORM | 9 | 4 | 5 | 4-3 to 5-0 | 4-9 | 3.21 | 4-8 to 6-5 | 5-8 | 7.16 | 22% | 33% | 11% | 33%* | 67% | 33% | 0% |
| SPEC | 7 | 6 | 1 | 3-4 to 5-5 | 4-6 | 9.88 | 1-9 to 5-1 | 3-0 | 14.67 | 0% | 29% | 71% | 0% | 43% | 57% | 0% |
| MAIN | 6 | 4 | 2 | 3-7 to 4-10 | 4-0 | 5.73 | 2-2 to 5-2 | 3-8 | 16.44 | 17% | 33% | 50% | 0% | 50% | 50% | 0% |
| NI | 10 | 6 | 4 | 2-9 to 5-0 | 3-10 | 9.02 | 3-2 to 5-11 | 4-5 | 10.26 | 40% | 30% | 10% | 20%* | 50% | 50% | 0% |

* predominantly Oriental

The actual observations were begun after each observer visited each school to familiarize herself with the children involved. Following five minutes of observation without the use of tape recorders, the observer wrote a descriptive paragraph, an "impressionistic observation"--focusing upon the child's use of materials, the individuals involved, the extent of involvement, initiative, assertiveness, interest, creativity, and responsiveness.

The same observational procedures as those for Year I were utilized during Year II (see Appendix I for observational procedures).

Data collection during the second year was divided into two periods of approximately 3 months, during which six observations were collected on each child. At the completion of each period of data collection observations were transcribed and coded, following the dimensions and categories outlined above (pp. 10-12) and presented in detail in Appendix I.

The data used for analysis were based upon a summary of the number of behaviors in each category within a dimension, tallied across all six observations for each child for each data collection period. Based on the number of interactional units in an observation, proportions of behaviors in each of the categories were computed.

## Results

We will now proceed to address the four major issues which were raised earlier with regard to the validity of the observation and coding system. Briefly, these questions focused on (1) observer reliability, (2) coder reliability, (3) differentiating between handicapped and nonhandicapped children, and (4) analysis of change between groups.

Observer Reliability. The immediate question that concerned us was whether two observers using the same system and simultaneously observing the same child would produce observations which, when coded, would yield the same profiles of the child in terms of the various dimensions of the coding system. In order to determine the level of observer reliability, the following procedure was undertaken.

On different occasions each trainee (B, C) was paired with the trained observer (A), and each member of the pair of observers (A-B or A-C) simultaneously collected a series of classroom observations, two for each child. These observations were then independently coded by the trained observer and the trainees so that one could control for the bias of coding one's own observations. (For explanation of computational procedures, see Item 1, Appendix III.)

Observer reliability was assessed periodically during the training period. Average observer reliabilities ranged from .66 to .96 (see Table 5, Appendix III).

Coder Reliability. The second question that concerned us was whether two coders, given the same observation, would categorize a particular interactional unit similarly in each of the dimensions. Coder reliability was continuously assessed during the period in which the coding system was being refined. The coder reliability figures presented in this section are based on the last set of observations that were coded for reliability purposes and were based on the Coding Manual as presented in Appendix I.

In order to determine coder reliability, each of the three coders (A, B, C) independently coded the same set of eight observations. Before coding began, each of the observations was jointly broken down into interactional units, assuring that each coder was coding the same units of behavior. Each unit was then coded (i.e., categorized) in each of the dimensions. The number of units within a dimension for which there was agreement between coders was then determined. For our purposes, then, coder reliability was synonymous with percent agreement. Coder reliability (Table 6, Appendix III) varied between pairs and across dimensions. There was the most agreement on the dimension of Direction across coders and the greatest variability in the dimension relating to the Quality of Intensity and Use of Materials.

Instrument Validation--Differentiating Among Groups of Children. Once observer and coder reliability had been assessed, the next step was to determine whether the instrument could differentiate among groups of children and to what degree. For clarity of presentation, the findings are briefly summarized separately for each dimension and are presented separately for Data Collection I and Data Collection II. In the text the four groups will be referred to as follows:

SPEC--handicapped children in a nonintegrated setting
MAIN--handicapped children in integrated settings
NORM--nonhandicapped children in a nonintegrated setting
NI-- nonhandicapped children in integrated settings

In order to address the issue raised above, the observations collected during Data Collection I were analyzed in the following manner. For each child the number of behaviors in each of the categories of a given dimension were tallied. The proportion of each category to the total number of units was then computed. For each group, proportions within each of these categories were then analyzed as follows: The most frequently occurring categories within each dimension were examined, using both Kruskal-Wallis One-Way Analyses of Variance and Mann Whitney U Tests. The results presented for the Mann-Whitney U Tests are all significant at $p < .05$.

The three most frequently used categories in the dimension of SOURCE, representing approximately 81% of the units coded across all groups (SPEC, MAIN, NORM, NI), were Self-Generated, Ongoing, and Returning (see Table 7a, Appendix IV for proportion in each of the categories for each group).

When the data were analyzed for differences among groups (Kruskall-Wallis), it was found that there were significant differences for the categories of Ongoing, Reactive, and Elicited. Results of the Mann-Whitney U Tests indicated that for the NI group, behaviors were coded as Ongoing significantly more often than for the NORM group. In contrast, behaviors were

coded as Elicited significantly more often in the NORM than the NI group. The MAIN group reacted significantly more often to extraneous events in the environment (Reactive) than either the NORM or NI groups (see Table 3).

The means and standard deviations for the proportion of interactions in each of the categories of the dimension DIRECTION for each group are found in Table 7b, Appendix IV. Review of this table indicates that interactions were most frequently coded as directed to Child, Teacher, and Material.

Further examination of the data (Table 4) indicated that the NORM group more frequently directed behaviors toward individual children (Child) than did the SPEC group. The SPEC group more frequently directed behaviors toward Equipment than did the MAIN group. It was also found that children in the SPEC group directed more significant behaviors toward the Teacher than did children in any of the other groups. That is, during the first data collection period, children in the specialized setting (SPEC) interacted more often with their teachers and educational equipment than with their peers. For the handicapped children who had been mainstreamed (MAIN) in the integrated classroom, there was no significant difference in the proportion of behaviors directed to the teacher by either normal (NI) or handicapped (MAIN) children.

In the dimension of MODE children's interactions with materials, equipment, and people (see Table 7c Appendix III for means and standard deviations), were most frequently coded in the categories of Visual, Motoric, and Verbal.

There were significant differences among groups in the Verbal and Gestural modes (Table 5). The nonhandicapped children, both NI and NORM, used the Verbal mode significantly more often than did the mainstreamed children (MAIN). When examining differences in the use of nonverbal communication, it was found that during Data Collection I the handicapped child in both the specialized (SPEC) and mainstreamed setting (MAIN) used facial expressions to communicate significantly more often than children in the NORM group. The NORM group, however, used the gestural mode significantly more than the NI group. There were no significant differences between the two groups of handicapped children (MAIN and SPEC) in the use of the nonverbal modes.

The QUALITY of a codeable unit is considered as either Social or Material, depending on the direction. That is, behaviors directed toward Child, Teacher, Group, or Observer are considered Social Units, while those directed toward educational materials and equipment are considered Materials Units. The Social Units are coded for the Intensity of Involvement and for the extent of Reciprocity. Materials Units are coded for the level of Intensity and the level of Use. In addition, Social Reciprocity and Material Use may also be coded as N.A. (i.e., not applicable; see Coding Manual for more detailed definitions).

The means and standard deviations for the proportion of each of the levels in each of the components of quality for each of the four groups are presented in Table 7d and Table 7e , Appendix III. Since there were few behaviors at the lower (Level 1) and upper (Level 5) ends of the scales in

Table 3

Data Collection I: Comparison Among Groups on Proportion of Total Interactional Units in Predominant Categories of Dimensions of Source

Kruskal-Wallis One-Way Analyses of Variance Mean Ranks (n=32)

| SOURCE | SPEC | MAIN | NORM | NI | $\chi^2$ | P < |
|---|---|---|---|---|---|---|
| Self-Generated | 18.6 | 18.7 | 10.9 | 18.8 | 4.39 | NS |
| Ongoing | 13.3 | 13.5 | 13.7 | 23.1 | 7.21 | .07 |
| Returning | 16.7 | 11.5 | 19.3 | 16.8 | 2.54 | NS |
| Reactive | 17.4 | 26.3 | 15.8 | 10.5 | 10.73 | .01 |
| Elicited | 17.6 | 14.0 | 23.9 | 10.6 | 10.06 | .02 |

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Mann-Whitney U Tests

(Significant at p < .05)

| CATEGORY | COMPARISON | U | P < |
|---|---|---|---|
| Self-Generated | None | | |
| Ongoing | NI > NORM | 15 | .01 |
| Returning | None | | |
| Reactive | MAIN > NI | 56 | .005 |
| | MAIN > NORM | 7 | .02 |
| Elicited | NORM > NI | 83 | .002 |

Table 4

Data Collection I: Comparison Among Groups in Proportion of Total Interactional Units in Predominant Categories of Dimension of Direction

Kruskal-Wallis One-Way Analyses of Variance Mean Ranks (n=32)

| | SPEC | MAIN | NORM | NI | $\chi^2$ | P< |
|---|---|---|---|---|---|---|
| DIRECTION | | | | | | |
| Material | 11.9 | 17.5 | 15.7 | 19.9 | 3.17 | NS |
| Equipment | 23.3 | 12.7 | 16.0 | 14.5 | 5.51 | NS |
| Total Child | 9.7 | 18.5 | 19.4 | 17.4 | 4.91 | NS |
| Group | 15.6 | 14.7 | 19.1 | 15.9 | 1.04 | NS |
| Teacher | 27.3 | 14.8 | 15.2 | 11.1 | 12.88 | .005 |

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Mann-Whitney U Tests

(Significant at p <.05)

| CATEGORY | COMPARISON | U | P< |
|---|---|---|---|
| Material | None | | |
| Equipment | SPEC > MAIN | 36.5 | .02 |
| Child | NORM > SPEC | 12 | .04 |
| Group | None | | |
| Teacher | SPEC > MAIN | 37 | .02 |
| | SPEC > NORM | 58 | .005 |
| | SPEC > NI | 68 | .001 |

Table 5

Data Collection I: Comparison Among Groups on Proportion of Total Interactional Units in Predominant Categories of Dimension of Mode

Kruskal-Wallis One-Way Analyses of Variance Mean Ranks (n=32)

| MODE | SPEC | MAIN | NORM | NI | $\chi^2$ | P< |
|---|---|---|---|---|---|---|
| Verbal | 13.1 | 7.8 | 20.2 | 20.7 | 9.44 | .02 |
| Gestural | 18.3 | 12.8 | 22.8 | 11.8 | 7.71 | .05 |
| Facial Exp. | 19.7 | 22.2 | 11.7 | 15.2 | 5.59 | NS |
| Visual | 19.6 | 20.8 | 13.6 | 14.4 | 3.42 | NS |
| Motoric | 11.1 | 15.4 | 21.3 | 18.3 | 4.36 | NS |
| Auditory | 19.4 | 11.8 | 19.4 | 14.6 | 3.46 | NS |

Mann-Whitney U Tests

(Significant at p < .05)

| CATEGORY | COMPARISON | U | P< |
|---|---|---|---|
| Verbal | NI > MAIN | 8 | .02 |
| | NORM > MAIN | 48 | .01 |
| Gestural | NORM > NI | 76 | .01 |
| Facial Exp. | SPEC > NORM | 50 | .05 |
| | MAIN > NORM | 9 | .03 |
| Visual | None | | |
| Motoric | None | | |
| Auditory | None | | |

each of the four components (Social Intensity, Social Reciprocity, Materials Intensity, Materials Use) analysis was based on combined levels. That is, Levels 1 and 2 were combined to form one category, and Levels 4 and 5 were combined to form another category. (See Table 7f, Appendix III for the means and standard deviations of these combined categories.)

The significant differences between groups for each of the components of quality discussed below are presented in Tables 6 and 7.

In the category of Social Intensity handicapped children, both mainstreamed (MAIN) and in the specialized setting (SPEC), exhibited significantly more lower-level involvements in social interactions (Levels 1 and 2 combined) than did normal children (NORM and NI). The children in the SPEC group also had significantly fewer interactions at Level 3 (moderate intensity) than did the group in which there were no handicapped children (NORM). In mainstreamed settings the upper levels of Social Intensity (4 and 5) were coded significantly more often for the normal child (NI group) than for the handicapped child (MAIN group).

When examining the category of Social Reciprocity, it was found that handicapped children (SPEC and MAIN) made significantly more attempts at interactions in situations in which a response would not be expected than did children in the NORM group. That is, more social reciprocity interactions were coded as N.A. (not applicable) for handicapped children. A moderate level of Social Reciprocity, Level 3, was more frequently exhibited in the NORM group than in the SPEC or MAIN groups. Extended reciprocal interactions (Level 4 and 5 combined) were coded significantly more often for non-handicapped children in both NORM and NI groups than for handicapped children in the mainstreamed classrooms (MAIN). There were no significant differences in levels of reciprocity between the normal groups (NORM vs. NI) or between the handicapped groups (SPEC vs. MAIN).

During the first data collection period, significant differences in the category of Materials Intensity were found between the handicapped children in normal settings (MAIN) and the normal preschool children in both NORM and NI groups. The Intensity of involvement with materials was significantly more often coded at Level 1 or 2 and significantly less often at Level 4 or 5 when the MAIN group was compared to both NORM and NI groups. There were no significant differences between the handicapped groups (SPEC vs. MAIN).

The findings on the analysis of the category of Materials Use revealed differences similar to those found for Materials Intensity. Again, the MAIN group was more frequently coded for lower level Materials Use (Levels 1 and 2) and significantly less often for Levels 4 and 5 than the normal children (NORM and NI).

In order to investigate further the validity of the coding system, the observations obtained during Data Collection II were subjected to the same analyses that were performed on the observations gathered during Data Collection I. The data were analyzed in terms of the predominantly used categories within each of the four dimensions, as measured by the mean proportion of interactions in each of the categories.

Table 6

Data Collection I: Comparison Among Groups on Proportion of Social Interactional Units in the Predominant Levels of Social Intensity and Social Reciprocity

Kruskal-Wallis One-Way Analyses of Variance Mean Ranks (n=32)

| | SPEC | MAIN | NORM | NI | $\chi^2$ | P< |
|---|---|---|---|---|---|---|
| SOCIAL INTENSITY | | | | | | |
| Level 1 and 2 | 23.6 | 26.2 | 11.2 | 10.5 | 17.29 | .001 |
| Level 3 | 11.1 | 12.2 | 21.8 | 18.1 | 6.70 | .08 |
| Level 4 and 5 | 12.7 | 6.3 | 22.3 | 20.0 | 13.06 | .004 |
| SOCIAL RECIPROCITY | | | | | | |
| Level 0 | 20.7 | 23.3 | 11.1 | 14.3 | 8.12 | .04 |
| Level 1 and 2 | 19.2 | 18.7 | 18.8 | 11.2 | 4.66 | NS |
| Level 3 | 12.2 | 10.8 | 22.7 | 17.3 | 7.68 | .05 |
| Level 4 and 5 | 13.1 | 10.3 | 18.4 | 20.8 | 6.00 | NS |

Mann-Whitney U Tests (Significant at p < .05)

| CATEGORY | COMPARISON | U | P < |
|---|---|---|---|
| Social Intensity: | | | |
| Level 1 and 2 | SPEC > NORM | 58 | .005 |
| | MAIN > NI | 58 | .002 |
| | SPEC > NI | 63 | .006 |
| | MAIN > NORM | 2 | .003 |
| Level 3 | NORM > SPEC | 11 | .03 |
| Level 4 and 5 | NORM > SPEC | 12 | .04 |
| | NI > MAIN | 6 | .009 |
| Social Reciprocity: | | | |
| Level 0 | SPEC > NORM | 55 | .01 |
| | MAIN > NORM | 9 | .03 |
| Level 1 and 2 | None | | |
| Level 3 | NORM > SPEC | 9.5 | .02 |
| | NORM > MAIN | 44 | .05 |
| Level 4 and 5 | NI > MAIN | 10 | .03 |
| | NORM > MAIN | 44 | .04 |

Table 7

Data Collection I: Comparison Among Groups on Proportion of Material Interactional Units in the Predominant Levels of Material Intensity and Material Use.

Kruskal-Wallis One-Way Analyses of Variance
Mean Ranks (n=32)

| | SPEC | MAIN | NORM | NI | $\chi^2$ | P < |
|---|---|---|---|---|---|---|
| MATERIAL INTENSITY | | | | | | |
| Level 1 and 2 | 18.1 | 25.8 | 13.6 | 12.3 | 8.97 | .03 |
| Level 3 | 18.3 | 19.3 | 17.1 | 13.0 | 2.23 | NS |
| Level 4 and 5 | 13.3 | 8.3 | 19.6 | 20.8 | 8.51 | .04 |
| MATERIAL USE | | | | | | |
| Level 0 | 15.1 | 18.3 | 22.6 | 10.9 | 7.69 | .05 |
| Level 1 and 2 | 18.5 | 25.7 | 10.8 | 14.8 | 9.75 | .02 |
| Level 3 | 19.8 | 15.5 | 13.4 | 17.5 | 2.01 | NS |
| Level 4 and 5 | 12.9 | 9.5 | 20.2 | 19.9 | 7.13 | .07 |

Mann-Whitney U Tests
(Significant at p < .05)

| CATEGORY | COMPARISON | U | P < |
|---|---|---|---|
| Material Intensity: | | | |
| Level 1 and 2 | MAIN > NI | 57 | .003 |
| | MAIN > NORM | 7 | .002 |
| Level 3 | None | | |
| Level 4 and 5 | NI > MAIN | 9 | .02 |
| | NORM > MAIN | 48 | .01 |
| Material Use: | | | |
| Level 0 | NORM > NI | 78 | .007 |
| Level 1 and 2 | MAIN > NI | 54 | .009 |
| | MAIN > NORM | 5 | .01 |
| Level 3 | None | | |
| Level 4 and 5 | NI > MAIN | 10 | .03 |
| | NORM > MAIN | 46 | .03 |

# V

The categories which were coded most frequently in the dimension of SOURCE across groups were found to be the same as in Data Collection I (i.e., Self-generated, Ongoing, and Returning). (See Table 7a, Appendix III for means and standard deviations.)

In analyzing the differences between groups (Table 8), it was found that the NI group had significantly more interactions coded as Ongoing than other groups (NORM, MAIN, SPEC). The children in the MAIN and NI groups each had significantly fewer interactions coded as Elicited than did the SPEC group. Returning was coded significantly more often for the NORM group than the NI.

Table 7b,Appendix III presents the means and standard deviations of the proportion of units coded in each of the categories of DIRECTION Interactions across all groups were most frequently directed to Material, Teacher, and Child.

The normal children in the mainstreamed settings (NI group) directed significantly more behaviors toward individual children (Child) than did the handicapped children (SPEC and MAIN). Children in the NI group also directed significantly more of their interactions to another child than did the children in the NORM group. The NORM group, however, directed significantly more interactions to Child than did the SPEC group. Both of the handicapped groups (MAIN and SPEC) had significantly more interactions directed to the teacher than did the NI group. Children in the NI group also had significantly fewer interactions coded as directed to the teacher than did the NORM group. (See Table 9)

When examining interactions with educational materials and equipment, the MAIN group interacted significantly more with educational materials than did any of the other three groups (SPEC, NI, or NORM). The children in the specialized settings (SPEC) also had significantly fewer interactions coded as directed to educational materials than did children in the NI group.

The most frequently occurring categories in the dimension of MODE were visual and motoric, which accounted for approximately 64% of the behaviors coded in this dimension (see Table 7c, Appendix IV).

When examining differences between groups (Table 10), the normal children (NORM and NI) used the verbal mode significantly more often than did the MAIN children. Handicapped children (SPEC and MAIN groups) tended to interact more frequently using nonverbal modes, with the SPEC and MAIN groups both using Facial Expressions significantly more than the NORM group. The Motoric mode was used by the children in the integrated settings (NI and MAIN groups) significantly more often than by the NORM group.

The mean proportions and standard deviations for each of the domains (Social and Materials) of the dimension of QUALITY are presented in Tables 7d, 7e and 7f, Appendix III.

When examining the proportions of behaviors for each level of the category of Social Intensity, handicapped children (SPEC and MAIN) predominantly displayed Level 2 or limited initiative in social interactions (see Table 7d, Appendix III).The normal children in both NORM and NI groups exhibited moderate degrees of intensity (Level 3) in social situations more frequently than handicapped children (SPEC and MAIN).

Table 8

Data Collection II: Comparisons Among Groups on Proportion of Total Interactional Units in Predominant Categories of Dimension of Source

Kruskal-Wallis One-Way Analyses of Variance Mean Ranks (n=32)

| SOURCE | SPEC | MAIN | NORM | NI | $\chi^2$ | P< . |
|---|---|---|---|---|---|---|
| Self-Generated | 16.3 | 14.3 | 16.7 | 17.8 | 0.52 | NS |
| Ongoing | 13.3 | 15.0 | 10.6 | 25.0 | 12.80 | .005 |
| Returning | 15.1 | 20.0 | 21.2 | 11.1 | 6.58 | .09 |
| Reactive | 18.6 | 20.5 | 16.3 | 12.8 | 2.99 | NS |
| Elicited | 24.0 | 10.3 | 19.7 | 12.1 | 10.29 | .02 |

Mann-Whitney U Tests
(Significant at p < .05)

| CATEGORY | COMPARISON | U | P< . |
|---|---|---|---|
| Self-Generated | None | | |
| Ongoing | NI > NORM | 1 | .0004 |
| | NI > MAIN | 12 | .05 |
| | NI > SPEC | 11 | .02 |
| Returning | NORM > NI | 74 | .02 |
| Reactive | None | | |
| Elicited | SPEC > MAIN | 39 | .01 |
| | SPEC > NI | 61 | .01 |

Table 9

Data Collection II: Comparisons Among Groups on Proportion of Total Interactional Units in Predominant Categories of Dimension of Direction

Kruskal-Wallis One-Way Analyses of Variance Mean Ranks (n=32)

| | SPEC | MAIN | NORM | NI | $\chi^2$ | P< |
|---|---|---|---|---|---|---|
| DIRECTION | | | | | | |
| Material | 8.3 | 25.5 | 14.4 | 18.7 | 11.87 | .008 |
| Equipment | 21.1 | 13.7 | 15.9 | 15.5 | 2.52 | NS |
| Total Child | 7.7 | 12.5 | 16.4 | 25.1 | 15.64 | .001 |
| Group | 12.3 | 11.8 | 18.8 | 20.2 | 4.98 | NS |
| Teacher | 23.6 | 17.0 | 19.7 | 8.4 | 12.48 | .006 |

Mann-Whitney U Tests

(Significant at p < .05)

| CATEGORY | COMPARISON | U | P< |
|---|---|---|---|
| Material | MAIN > SPEC | 4 | .02 |
| | MAIN > NI | 48 | .05 |
| | MAIN > NORM | 8 | .02 |
| | NI > SPEC | 12 | .02 |
| Equipment | None | | |
| Total Child | NI > NORM | 12 | .007 |
| | NI > MAIN | 11 | .04 |
| | NI > SPEC | 1 | .001 |
| | NORM > SPEC | 7 | .01 |
| Group | None | | |
| Teacher | NORM > NI | 83 | .002 |
| | MAIN > NI | 48 | .05 |
| | SPEC > NI | 60 | .01 |

Table 10

Data Collection II: Comparisons Among Groups on Proportions of Total Interactional Units in Predominant Categories of Dimension of Mode

Kruskal-Wallis One-Way Analyses of Variance Mean Ranks (n=32)

| | SPEC | MAIN | NORM | NI | $\chi^2$ | P < |
|---|---|---|---|---|---|---|
| MODE | | | | | | |
| Verbal | 13.1 | 6.7 | 22.1 | 19.7 | 11.87 | .008 |
| Gestural | 22.1 | 17.5 | 11.2 | 16.7 | 5.45 | NS |
| Facial Expression | 21.7 | 20.3 | 10.8 | 15.7 | 6.59 | .09 |
| Visual | 17.3 | 16.0 | 23.6 | 9.9 | 10.11 | .02 |
| Motoric | 13.6 | 22.2 | 10.3 | 20.7 | 8.77 | .03 |
| Auditory | 21.1 | 14.8 | 19.2 | 11.8 | 5.17 | NS |

---

Mann-Whitney U Tests (Significant at $p < .05$)

| CATEGORY | COMPARISON | U | P |
|---|---|---|---|
| Verbal | NI > MAIN | 6 | .01 |
| | NORM > MAIN | 53 | .002 |
| Gestural | SPEC > NORM | 52 | .03 |
| Facial Exp. | SPEC > NORM | 50 | .05 |
| | MAIN > NORM | 9 | .03 |
| Visual | NORM > NI | 84 | .002 |
| Motoric | NI > NORM | 14 | .01 |
| | MAIN > NORM | 3 | .005 |
| Auditory | SPEC > NI | 55 | .05 |

Analysis of differences between groups (Table 11) indicated that the NI group had significantly fewer interactions that were coded as low intensity (Levels 1 and 2) than did the NORM and the MAIN groups. Reciprocally, the NI group had significantly more interactions reflecting a higher level of intensity when compared with each of the other three groups (NORM, SPEC, and MAIN).

Social Intensity at Level 3 was the predominant level coded for the normal child (NORM and NI groups). When comparing these two groups (NORM vs. NI), Level 3 was coded significantly more often in the NORM group than the NI group.

The predominant level coded in the category of Social Reciprocity was 0 or Not Applicable (Table 7f, Appendix III), indicating interactions in which the child being observed attempted to initiate social interaction in situations when a response from the other individual would not be expected. However, there were no significant differences among or between groups in the frequency with which this category was used. When the collapsed subcategories of low (1 and 2), middle (3), and high (4 and 5) were analyzed, the NORM group was found to have significantly more low-level behaviors than the NI group. Inversely, the NI group had more behaviors coded as Level 4 and 5 than did either the NORM or SPEC groups. No significant differences were found at any of the levels between the two groups of handicapped children, MAIN and SPEC.

In examining the category of Materials Intensity in terms of the level of interest children exhibited when working with educational materials and equipment, it was found that all groups had the greatest proportion of codings at Level 4 (Table 7e, Appendix III). There were significant differences between groups in the proportion of coded interactions at Level 3 and those at the combined Level 4 and 5 (Table 7f, Appendix III). Children in the MAIN and SPEC groups had significantly more interactions at a moderate level of intensity (Level 3) than did children in the NI group. The NI group had significantly more interactions at Level 4 intensity than did the SPEC group; however, no significant difference was evident between the handicapped children (MAIN) and the normal children (NI) in the integrated settings.

Within the category of Materials Use children's interactions were most frequently coded at Level 3 (working toward goal) for the SPEC, MAIN, and NI groups. The NORM group used materials most often at Level 4 (Table 7e, Appendix III). In examining differences between groups of children, it was found that the SPEC children used materials and equipment significantly more often at Levels 1 and 2 than did the NI children. There were no significant differences between the handicapped children (SPEC vs. MAIN) or between the normal children (NORM vs. NI) at these lower levels (Table 12). The MAIN children more often exhibited Level 3 use than their peers in the same settings (NI group). The combined Levels 4 and 5, however, were coded significantly more often for the NI group than for the MAIN group. When comparing the use of materials by the two normal groups (NORM and NI) at these higher levels, the NI group had significantly more codings than did the NORM group. In comparing the two groupings of handicapped children, it was found that the SPEC group used materials and equipment significantly more often at a higher level than did the MAIN group.

Table 11

Data Collection II: Comparison Among Groups on Proportion of Social Interactional Units in the Predominant Levels of Social Intensity and Social Reciprocity

Kruskal-Wallis One-Way Analyses of Variance Mean Ranks (n=32)

| | SPEC | MAIN | NORM | NI | $\chi^2$ | P< |
|---|---|---|---|---|---|---|
| Social Intensity: | | | | | | |
| Level 1 and 2 | 19.5 | 23.7 | 17.1 | 9.6 | 9.66 | .02 |
| Level 3 | 18.7 | 12.5 | 21.6 | 12.8 | 5.65 | NS |
| Level 4 and 5 | 12.3 | 12.0 | 13.4 | 24.9 | 11.77 | .008 |
| Social Reciprocity: | | | | | | |
| Level 0 | 18.1 | 19.3 | 17.6 | 12.8 | 2.46 | NS |
| Level 1 and 2 | 17.03 | 18.3 | 20.7 | 11.1 | 5 37 | NS |
| Level 3 | 18.9 | 15.2 | 15.1 | 16.8 | 0.80 | NS |
| Level 4 and 5 | 10.6 | 15.3 | 13.9 | 23.7 | 9.48 | .02 |

Mann-Whitney U Tests (Significant at p <.05)

| CATEGORY | COMPARISON | U | P < |
|---|---|---|---|
| Social Intensity: | | | |
| Level 1 and 2 | NORM > NI | 71 | .03 |
| | MAIN > NI | 55 | .007 |
| Level 3 | NORM > NI | 72 | .03 |
| Level 4 and 5 | NI > NORM | 13 | .009 |
| | NI > MAIN | 4 | .005 |
| | NI > SPEC | 9 | .01 |
| Social Reciprocity: | | | |
| Level 0 | None | | |
| Level 1 and 2 | NORM > NI | 74 | .02 |
| Level 3 | None | | |
| Level 4 and 5 | NI > NORM | 16 | .02 |
| | NI > SPEC | 8 | .008 |

Table 12

Data Collection II: Comparison Among Groups on Proportion of Material Interactional Units in the Predominant Levels of Material Intensity and Material Use.

Kruskal-Wallis One-Way Analyses of Variance Mean Rank (n=32)

| | SPEC | MAIN | NORM | NI | $\chi^2$ | P < |
|---|---|---|---|---|---|---|
| **Material Intensity** | | | | | | |
| Level 1 and 2 | 16.9 | 20.4 | 15.8 | 14.5 | 1.57 | NS |
| Level 3 | 22.6 | 22.0 | 14.6 | 10.6 | 9.25 | .03 |
| Level 4 and 5 | 11.6 | 12.5 | 17.6 | 21.4 | 5.87 | NS |
| **Material Use** | | | | | | |
| Level 0 | 17.9 | 17.2 | 21.3 | 10.8 | 6.24 | .10 |
| Level 1 and 2 | 20.4 | 20.2 | 14.8 | 13.1 | 3.76 | NS |
| Level 3 | 19.1 | 22.5 | 13.9 | 13.4 | 4.80 | NS |
| Level 4 and 5 | 17.1 | 7.2 | 14.9 | 23.1 | 11.19 | .01 |

Mann-Whitney U Tests (Significant at $p < .05$)

| CATEGORY | COMPARISON | U | P< |
|---|---|---|---|
| **Material Intensity:** | | | |
| Level 1 and 2 | None | | |
| Level 3 | MAIN > NI | 48 | .05 |
| | SPEC > NI | 63 | .006 |
| Level 4 and 5 | NI > SPEC | 14 | .04 |
| **Material Use:** | | | |
| Level 0 | NORM > NI | 71 | .03 |
| Level 1 and 2 | SPEC > NI | 55 | .05 |
| Level 3 | MAIN > NI | 48 | .05 |
| Level 4 and 5 | SPEC > MAIN | 35 | .05 |
| | NI > NORM | 18 | .03 |
| | NI > MAIN | 2 | .002 |

A summary of findings from Data Collection I indicated that there was a total of 36 significant differences between groups. Table 13 summarizes the number of significant differences between groups according to dimension. The greatest number (11) were between the handicapped children in mainstreamed (MAIN) settings and the group of nonintegrated normal children (NORM). Nine significant differences were found between normal and handicapped children in the mainstreamed classroom (MAIN vs. NI). There were eight significant differences between the children in the SPEC group and the NORM group. Based on these differences between groups, it is evident that the coding system yields data which discriminate groups of children, particularly handicapped and nonhandicapped children.

Further examination of Table 13 indicates that while each of the dimensions accounts for about the same number of discriminations among groups (4-7), these discriminations are differentially distributed. That is, no two dimensions differentiate among groups in exactly the same way. This is important in that it indicates that all the dimensions are necessary in order to best discriminate among groups of children. For example, Social Intensity consistently differentiated between handicapped and nonhandicapped children, while the dimension of Direction was found to differentiate only between SPEC and the other groups.

In applying the coding system to an additional body of observations (Data Collection II), 42 significant differences were found between groups of children (see Table 14). As with Data Collection I, the system most clearly distinguished between handicapped and nonhandicapped children, 28 out of 42 significant differences. Many of the other significant differences were between the NI and the other groups (NORM 12/42; SPEC 11/42; MAIN 9/42).

Further examination of Table 14 indicates again that each of the dimensions discriminates among groups in a different manner, as evidenced by the fact that no two dimensions differentiate among the same groups in the same way. In addition, the dimensions vary in the number of significant discriminations (3-11) detected among groups, with the dimension of Direction and Mode being the best discriminators across groups.

The analysis of observations from Data Collection II again confirms the previous finding that the coding system can differentiate among groups of children. This is further evidence for the validity of the system.

The Coding System as a Measure of Change Within and Across Groups. Once it had been determined that the coding system could discriminate among groups of children, the findings from the two data collection periods were compared. The goal of this comparison was twofold: (a) to determine whether, within a particular group of children, significant changes occurred in any of the dimensions; and (b) to determine whether the changes that occurred were in the same direction for each of the groups. With these two aims the data were examined. The results are discussed below. (The reader may wish to refer again to Tables 7a to 7f, Appendix III, which present the means and standard deviations of the proportion of behaviors categorized in each dimension for each data collection period.)

Table 13

Data Collection I: Number of Significant Differences Between Groups According to Dimension

| Dimension | SPEC vs MAIN | NORM vs NI | SPEC vs NORM | MAIN vs NI | SPEC vs NI | NORM vs MAIN | TOTAL |
|---|---|---|---|---|---|---|---|
| Source | | 2 | | 1 | | 1 | 4 |
| Direction | 2 | | 2 | | 1 | | 5 |
| Mode | | 1 | 1 | 1 | | 2 | 5 |
| Social Intensity | | | 3 | 2 | 1 | 1 | 7 |
| Social Reciprocity | | | 2 | 1 | | 3 | 6 |
| Material Intensity | | | | 2 | | 2 | 4 |
| Materials Use | | 1 | | 2 | | 2 | 5 |
| Totals | 2 | 4 | 8 | 9 | 2 | 11 | 36 |

Table 14

Data Collection II: Summary of Number of Significant Differences Between Groups by Dimension

| Dimension | SPEC vs MAIN | NORM vs NI | SPEC vs NORM | MAIN vs NI | SPEC vs NI | NORM vs MAIN | TOTAL |
|---|---|---|---|---|---|---|---|
| Source | 1 | 2 | | 1 | 2 | | 6 |
| Direction | 1 | 2 | 1 | 3 | 3 | 1 | 11 |
| Mode | | 2 | 2 | 1 | 1 | 3 | 9 |
| Social Intensity | | 3 | | 2 | 1 | | 6 |
| Social Reciprocity | | 2 | | | 1 | | 3 |
| Material Intensity | | | | 1 | 2 | | 3 |
| Material Use | 1 | 2 | | 2 | 1 | | 6 |
| | 3 | 13 | 3 | 10 | 11 | 4 | 44 |

In order to determine whether changes in selected categories within each of the four groups were significant, the data were subjected to the Wilcoxon Matched-Pairs Signed-Rank Test. The results for each of the four groups are summarized and presented in Table 15.

For the handicapped children in the specialized setting (SPEC), only significant changes were in the domains of the dimension of Social Quality (Social Intensity and Social Reciprocity), with a significant decrease in Level 1 and 2 behaviors for both Social Intensity and Social Reciprocity. Reciprocally, there was some increase across the upper levels (3, 4, and 5) of these domains.

There were many (11/30) significant changes in the interactions of the handicapped children in normal settings (MAIN). The source of their involvement changed significantly, with a significant increase in the proportion of Ongoing continuing interactions and corresponding significant decreases in units coded as Reactive and Self-Generated. There were also significant changes in the dimension of the Quality of social interactions. For these handicapped children there was a significant decrease in the lower levels (1 and 2) of Social Intensity and Social Reciprocity as significantly more interactions were coded at Level 4 and 5. There were similar differences in the Quality of involvement with educational materials (Intensity). The interest and initiative was significantly higher with significantly more behaviors at Levels 4 and 5 and significantly fewer interactions at Levels 1 and 2. Their work with educational materials (Level of Use) also became more goal-directed. This increase in more purposeful exploration and use was indicated by a significant decrease in N.A. codings, a decline in Levels 1 and 2, and a significant increase at Level 3.

In the NORM group there were significant changes in the dimensions of Source, Mode, and Quality. The interactions of these normal children were more continuous, as indicated by a significant increase in Ongoing interactions and decreases in Self-Generated and Returning. The predominant modes were consistently Visual, Motoric, and Verbal, with a significant increase in the use of the Verbal mode and a significant decrease in the use of Nonverbal gestures. This group also significantly increased their use of the Visual mode in interactions. With the slight increase of higher level Social Reciprocity, there was a significant decrease in Level 3 interactions. Although their Level of Use did not change significantly, their involvement changed noticeably with significant decrease at the lower levels and correspondingly significant increase of involvement at the upper level.

The NI group was also involved significantly more often in interactions coded as Ongoing in the second period of data collection. For these normal children this resulted in a significant decline in Self-Generated and Returning behaviors. During Data Collection II, their interactions were significantly more often directed to children (child and handicapped child combined) than in Data Collection I. It is not surprising, therefore, that there was a significant increase in their Intensity and Reciprocity in social situations with significantly more Level 4 and 5 interactions in both Social Intensity and Social Reciprocity. There were comparable changes in the quality of their work with educational materials and equipment. Interest or Intensity of involvement with materials was significantly more often at Levels 4 and 5,

Table 15

Comparisons between Data Collection I and Data Collection II on Proportions of Interactional Units for Predomininant Categories of Each Dimension (Significant Levels: Wilcoxon Matched Pairs Signed Ranks Test)

| SOURCE | SPEC | MAIN | NORM | NI |
|---|---|---|---|---|
| Self-Generated | NS | .05 | NS | .01 |
| Ongoing | NS | .03 | .03 | .005 |
| Returning | NS | NS | NS | .02 |
| Reactive | NS | .05 | NS | NS |
| Elicited | NS | NS | NS | NS |
| **DIRECTION** | | | | |
| Material | NS | NS | NS | NS |
| Equipment | NS | NS | NS | NS |
| Total Child | NS | NS | NS | .03 |
| Group | NS | NS | NS | NS |
| Teacher | NS | NS | NS | NS |
| **MODE** | | | | |
| Verbal | NS | NS | .05 | NS |
| Gestural | NS | NS | .04 | NS |
| Facial Expression | NS | NS | NS | NS |
| Visual | NS | NS | .04 | NS |
| Motoric | NS | NS | NS | NS |
| Auditory | NS | NS | NS | NS |
| **SOCIAL INTENSITY** | | | | |
| Level 1 and 2 | .02 | .03 | NS | NS |
| Level 3 | NS | NS | NS | NS |
| Level 4 and 5 | NS | .03 | NS | .01 |
| **SOCIAL RECIPROCITY** | | | | |
| Level 0 | NS | NS | NS | NS |
| Level 1 and 2 | .02 | .03 | NS | NS |
| Level 3 | NS | NS | .01 | NS |
| Level 4 and 5 | NS | .05 | NS | .01 |
| **MATERIAL INTENSITY** | | | | |
| Level 1 and 2 | NS | .03 | .03 | .05 |
| Level 3 | NS | NS | NS | NS |
| Level 4 and 5 | NS | .05 | .02 | .02 |
| **MATERIAL USE** | | | | |
| Level 0 | NS | .03 | NS | NS |
| Level 1 and 2 | NS | NS | NS | .04 |
| Level 3 | NS | .05 | NS | NS |
| Level 4 and 5 | NS | NS | NS | NS |

with a correspondingly significant decrease at Levels 1 and 2. The increase in the child's goal-directed (Level 4 and 5) involvement was 11%, with a significant decrease in limited use of the materials, Levels 1 and 2.

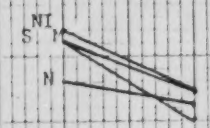
Change Within Dimensions Among Groups. Change from Data Collection I to II for each group in each of the predominantly used categories of the dimensions Source, Direction, and Mode and for all the levels of the dimension of Quality are graphically presented in Figures 1 to 7.
It is interesting to note that within a particular category of a particular dimension, patterns of change are unique to a given group. This would seem to be counter to the expectation that, although degree of change may differ, the direction of change should be similar for each of the groups (i.e., for children in general). The discrepant patterns of change among the groups were subjected to the following analysis: For a particular category the differences in proportion between Data Collection I and II were computed for each child, and these "difference scores" were then subjected to Mann-Whitney U Tests. The significant findings are discussed below for each dimension.

In the dimension of SOURCE there were similar patterns of change among the groups for most of the categories. (Figure 1 presents these patterns for the categories of Self-Generated, Ongoing, Returning, and Reactive.) For example, all groups displayed a decrease in the proportion of interactions coded as Self-Generated and an increase in the proportion of interactions coded as Ongoing. However, in the category of Returning, there was a significant increase for the MAIN group in comparison to the NI group, which displayed a significant decrease ($U = 51$, $p < .02$). Behaviors coded as Reactive declined significantly in the MAIN group relative to the normal children in both the NORM ($U = 46$, $p < .025$) and NI ($U = 10$, $p < .03$) groups, where no change was noted.

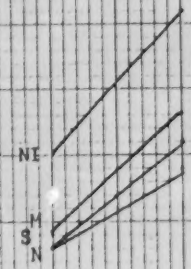
In the dimension of DIRECTION many of the differences were also between the MAIN group and the other groups (see Figure 2 ). The MAIN children exhibited significantly more interactions to Materials when compared to the NI group ($U = 48$, $p < .05$), which exhibited a decrease in the proportions of interactions directed toward Materials. For the NI group the resultant increase in the proportions of interactions directed to children yielded significant differences between this group and the handicapped children, both MAIN ($U = 11$, $p < .04$) and SPEC ($U = 11$, $p < .025$) where there had been a decrease. Interaction directed toward Teachers had increased in both the NORM group (NORM vs. NI: $U = 76$, $p < .01$) and the MAIN (MAIN vs. NI: $U = 49$, $p < .04$) children, relative to the NI group.

The major differences in the dimension of MODE were changes in the frequency of the use of the Visual and Gestural modes (see Figure 3).
Relative to the SPEC (SPEC vs. NORM: $U = 53$, $p < .02$), MAIN (MAIN vs. NORM: $U = 7$, $p < .02$), and NI (NI vs. NORM: $U = 15$, $p < .01$) groups, which had shown increases in the use of the Gestural mode, the NORM group exhibited significantly less interactions in this mode. Given that the figures are proportional, it is not surprising that the NORM group showed a corresponding increase in the Visual mode while the use of this mode decreased in proportional frequency for the SPEC ($U = 12$, $p < .04$), MAIN ($U = 50$, $p < .001$), and NI ($U = 78$, $p < .007$) groups.

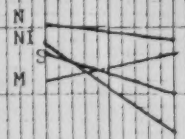
Figure 1. SOURCE: Differences in Proportions between Data Collection I and II in Predominantly Used Categories



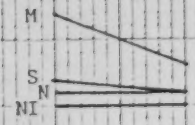

Self-Generated




Ongoing




Returning




Reactive

Elicited

Figure 2. DIRECTION: Differences in Proportions between Data Collection I and II in Predominantly Used Categories

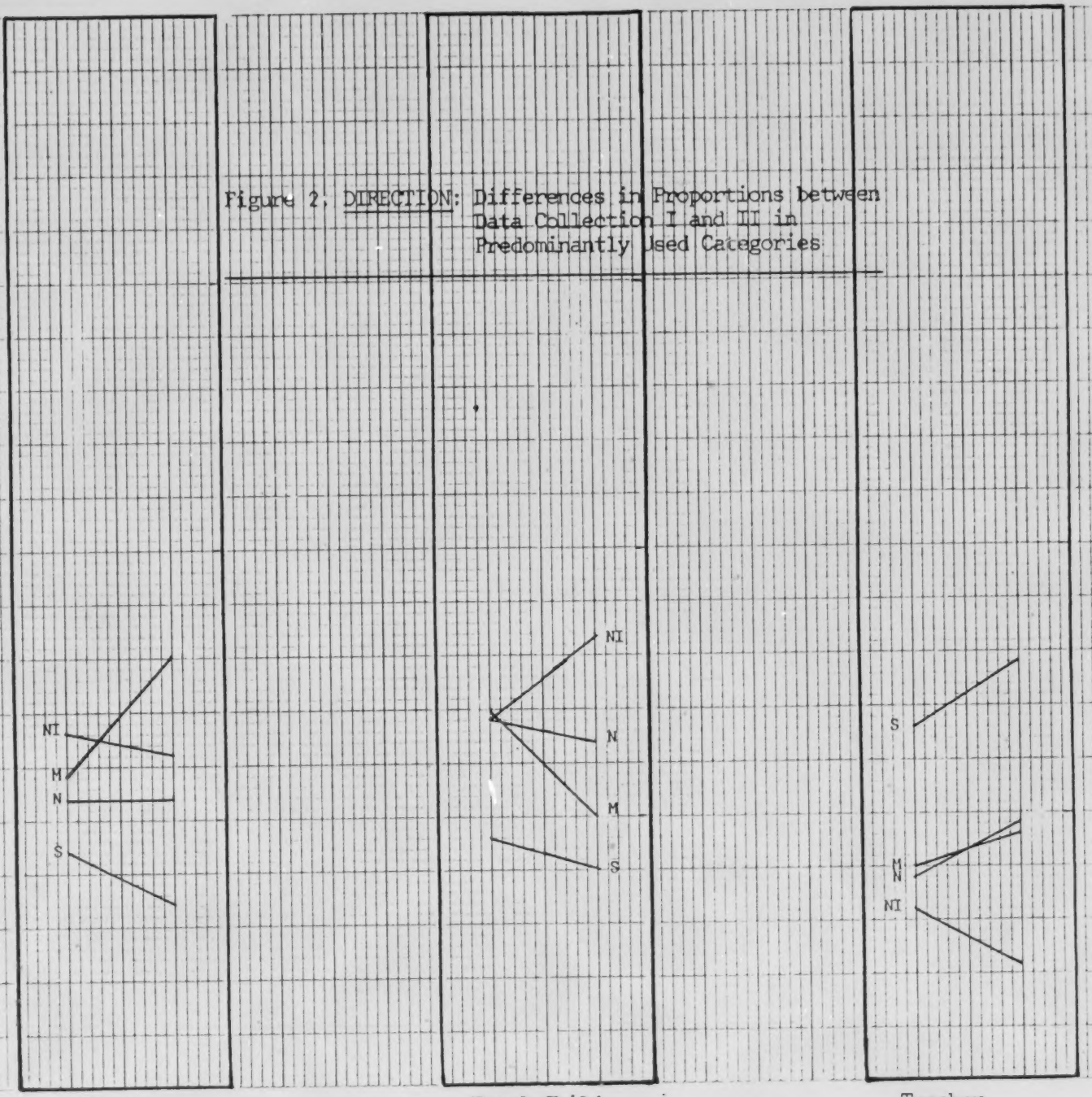
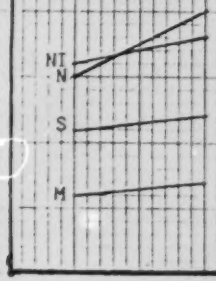
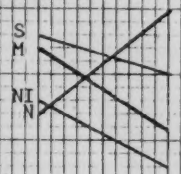
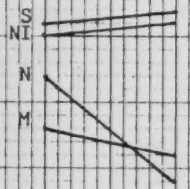


Figure 3. MODE: Differences in Proportions between Data Collection I and II in Predominantly Used Categories

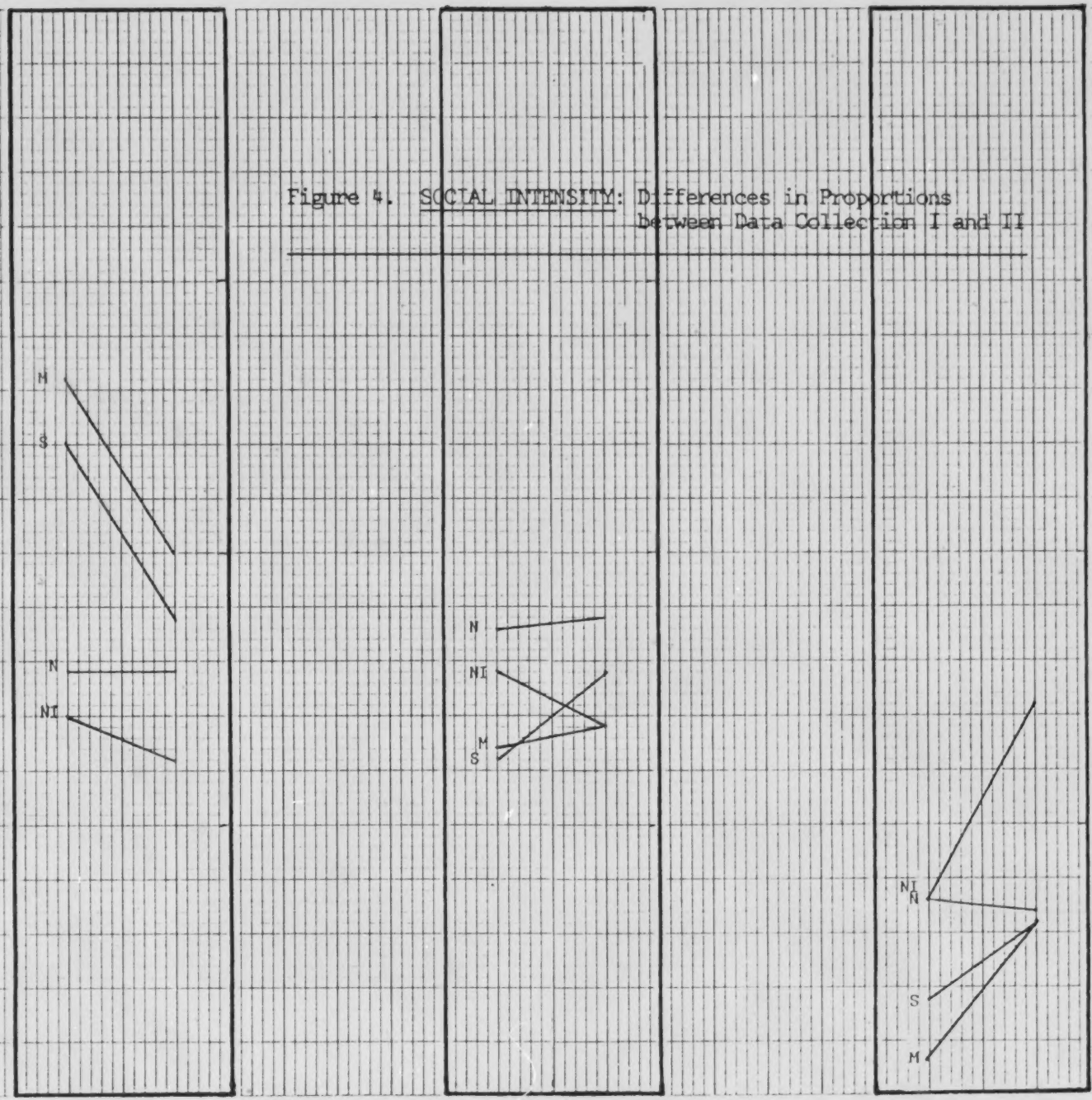




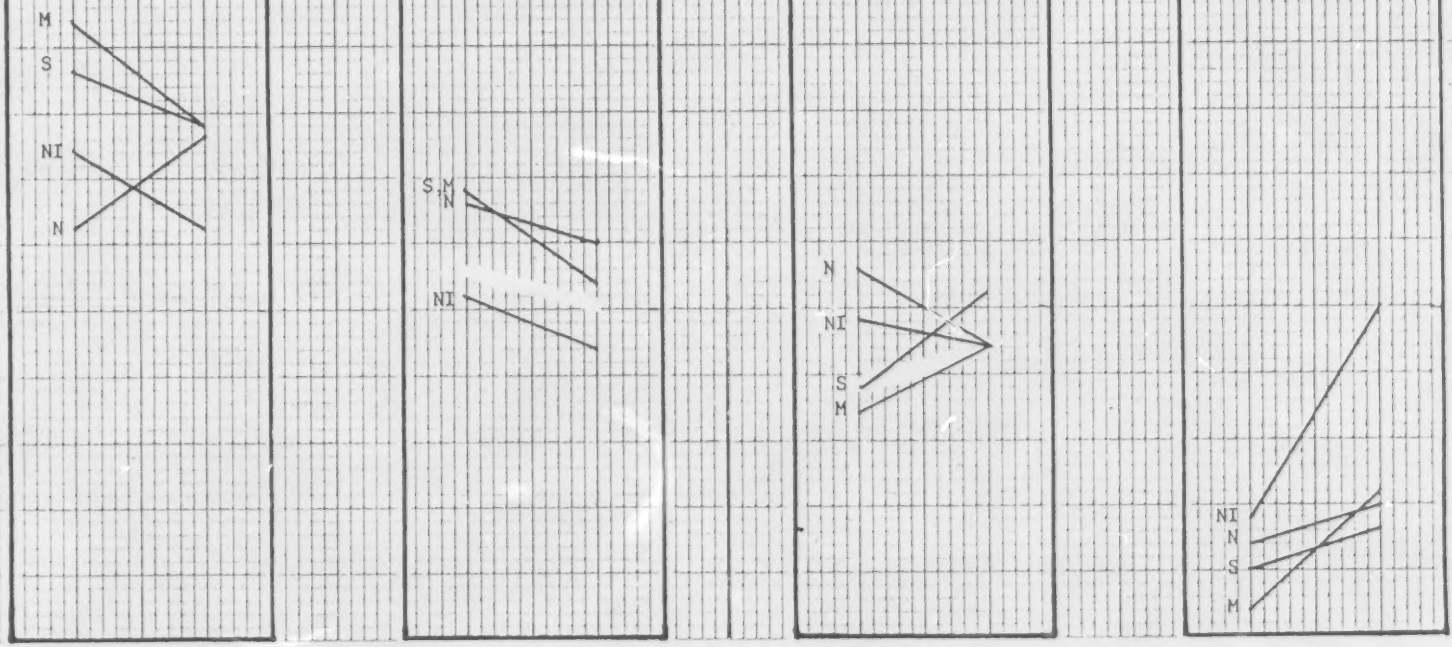

Verbal Gestural Visual Motoric

Figure 4. SOCIAL INTENSITY: Differences in Proportions between Data Collection I and II



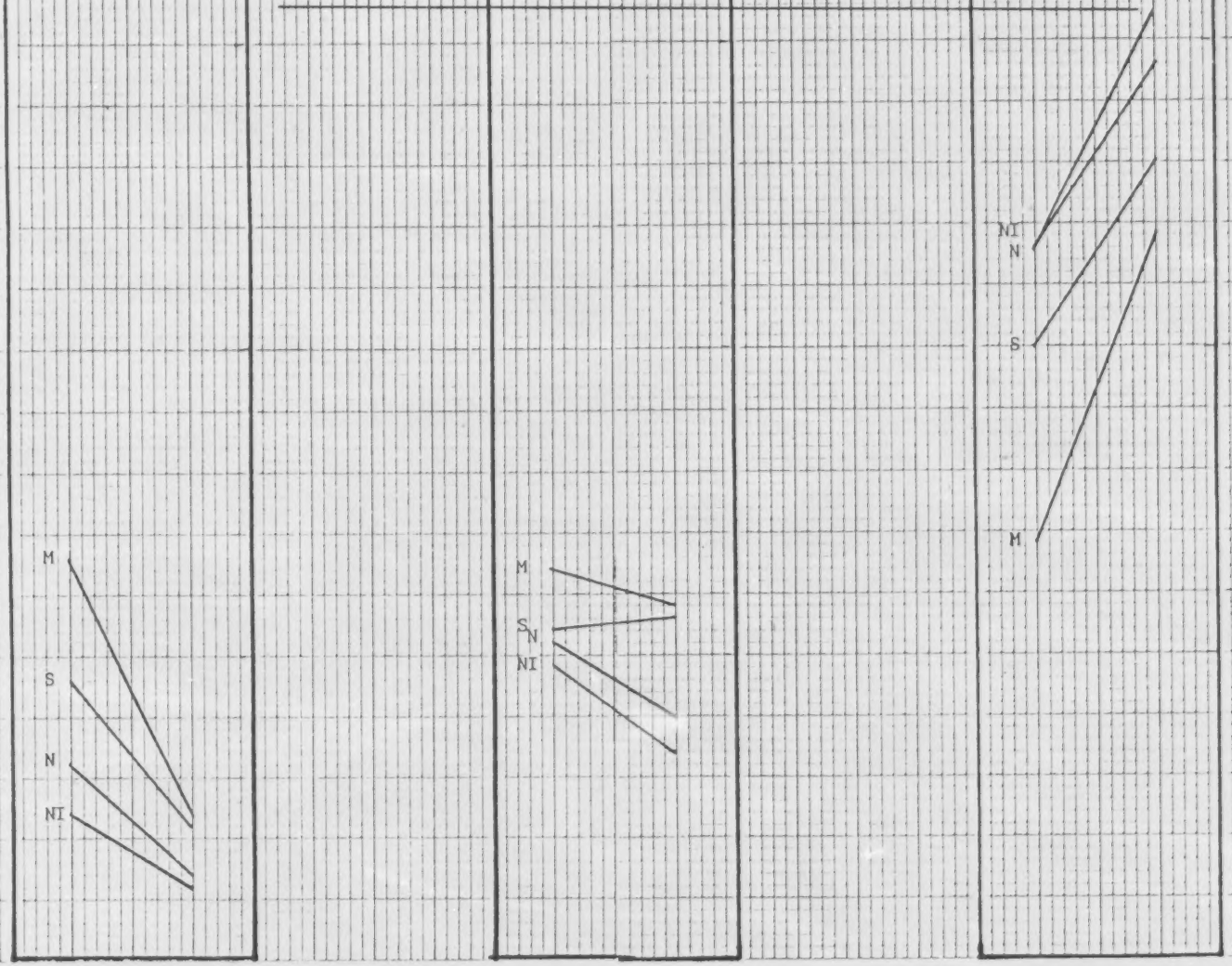

Level 1 and 2 | Level 3 | Level 4 and 5

Figure 5: SOCIAL RECIPROCITY: Differences in Proportions between Data Collection I and II



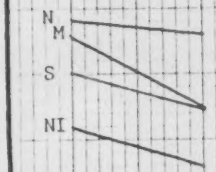

N.A. Level 1 and 2 Level 3 Level 4 and 5

Figure 6. MATERIAL INTENSITY: Differences in Proportions between Data Collection I and II

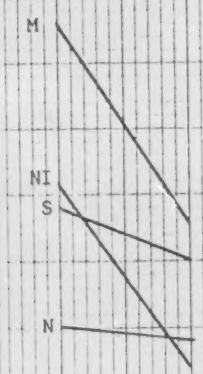



Level 1 and 2 | Level 3 | Level 4 and 5

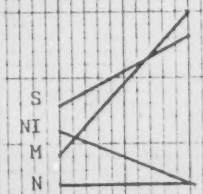
Figure 7. MATERIAL USE: Differences in Proportions between Data Collection I and II



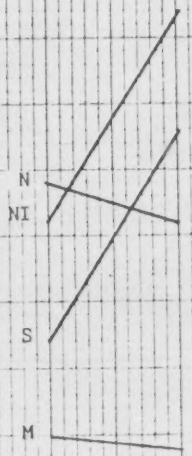

N.A.




Level 1 and 2




Level 3




Level 4 and 5

Changes in the domain of Social Intensity were all relative to the NORM group which displayed no significant changes across levels (see Figure 4). The handicapped children (SPEC and MAIN) exhibited a significant decrease relative to the NORM (NORM vs. SPEC: $U = 13$, $p < .05$; NORM vs. MAIN: $U = 46$, $p < .025$) at Levels 1 and 2. At Levels 4 and 5 the MAIN and NI children showed an increase relative to the lack of change in the NORM group (NORM vs. MAIN: $U = 8$, $p < .025$; NORM vs. NI: $U = 12$, $p < .007$).

Figure 5 illustrates the changes in the frequency and extent of Social Reciprocity. In the mainstreamed settings NI and MAIN groups exhibited a decrease in Not Applicable (N.A.) codings relative to the increased proportion exhibited in the NORM group (NI vs. NORM: $U = 75$, $p < .02$; MAIN vs. NORM: $U = 49$, $p < .01$). Inversely, at Level 3 the two handicapped groups (SPEC and MAIN) increased relative to the NORM group (SPEC vs. NORM: $U = 58$, $p < .005$; MAIN vs. NORM: $U = 3$, $p < .005$). At Levels 4 and 5 there was an increase in the NI groups, particularly in relation to the two groups in which there was little change (NI vs. NORM: $U = 18$, $p < .03$; NI vs. SPEC: $U = 15$, $p < .05$).

Changes in the children's involvement with materials (Materials Intensity) increased similarly across groups with the exception of the lower levels in Intensity (see Figure 6). At these levels there was a significant decrease for the MAIN group relative to the slight decrease in the NI group ($U = 6$, $p < .009$).

For Materials Use the only significant differences among the groups were at Level 3 where the MAIN group increased relative to a decrease in the NI group ($U = 52$, $p < .02$). (See Figure 7).

In summary, the major accomplishments in our effort to examine the interactions of normal and handicapped preschool children in the classroom include:

1. The development of an observation system which is reliable in that it yields consistent profiles of children when two observers simultaneously record a child's interactions in the classroom.

2. The development of a coding system which is reliable in that it yields consistency among coders in categorizing the interactions of normal and handicapped preschool children with people and with educational materials.

3. The development of an observation and coding system which can differentiate between normal and handicapped preschool children on the basis of their interactions with people and with educational materials. For example, analysis of observations from Data Collection I indicated that both normal and handicapped children in normal settings (MAIN, NI, NORM) exhibited more change than the handicapped children in the special setting (SPEC).

4. The refinement of a scoreable protocol which can be used to measure preschool children's level of competence in working with educational materials and which is correlated with MA.

## Discussion

Mainstreaming has become a widely-accepted educational practice during the past few years. As stated earlier, the assessment of its impact has been limited, particularly on the preschool population (Wynne et al., 1975). Attempts have been made to systematically study mainstreaming, but as indicated previously, these studies have been methodologically weak or inappropriate for studying mainstreaming of young handicapped children. Since the long-range effects of mainstreaming can only be shown by time and longitudinal studies, it is imperative that we, as educators and researchers, attempt to analyze what is currently happening in the classroom for specific children. We agree with the position of Takanishi (1978). We believe that the research models to study children must proceed from a developmental perspective:

> "Given the complexities involved, a developmental perspective to evaluation needs to be re-oriented toward description and understanding and toward concurrent contemporary validity rather than prediction." (Takanishi, 1978, p. 21)

As indicated in the summary of the results from the study of children, a system was developed which appeared to differentiate handicapped and non-handicapped children on the basis of a profile of functioning in four dimensions, selected because they were educationally relevant and developmentally sound. It is essential to carefully examine the areas which differentiate the groups of children in our study and consider the value of these findings in view of the overwhelming trend to mainstream all handicapped children.

There are two sets of data which must be considered. The first are the results which validate a system for distinguishing differences in functioning between groups of children, handicapped (MAIN and SPEC) vs. normal (NORM and NI). The second set of findings are those which examine more subtle changes between groups of children which are presumed to be similar: (a) two groups of children in the same setting, MAIN vs. NI; (b) two groups of physically handicapped children, SPEC vs. MAIN; and (c) two groups of normal children, NORM vs. NI.

These results must also be examined in view of certain obvious constraints such as the educational ambiance of specific classrooms, the locations of the schools and their representative population, as well as the particular children who are mainstreamed. There is an interactive pattern of child, teacher, school, and setting which must be kept in mind when judging the results.

Within these constraints, let us proceed to examine and discuss the differences which emerged when the coding system was applied to more than 500 observational records. Of the 78 significant differences between groups 74% were between handicapped and non-handicapped groups of children with only five significant differences (6%) between the handicapped groups, MAIN vs. SPEC. The coding system as developed and used for the purpose of this study appears to have construct validity, i.e. it differentiates groups of children as one would expect them to be differentiated.

Examining specific patterns between groups one must be careful to consider the possible effects of the homogenous groups (NORM and SPEC) as compared to the groups which were composed of children from a variety of settings (MAIN and NI). The overall patterns of functioning in specific dimensions, however, changed from the first to the second data collection period, with no one dimension yielding a common pattern across groups, i.e. the effect of settings did not appear to strongly contribute to specific patterns of functioning.

One of the impetuses to mainstream has been to provide handicapped children with peer group models from which they could develop or learn socially-acceptable patterns of interactions (Peterson & Haralick, 1977). It is therefore important to examine the patterns of interaction of handicapped children in mainstreamed settings in comparison to their peers (NI) and in relationship to handicapped children in specialized settings.

Within the sample we studied, handicapped children in general (SPEC and MAIN) interacted less with their peers than did non-handicapped children (NORM and NI). Throughout the course of the year the children in the SPEC settings directed more of their interactions to their teachers than did normal children. Our findings on the social behaviors of handicapped children in mainstreamed settings were contrary to the often-stated benefit of mainstreaming -- that is, mainstreaming increases the social responsiveness of handicapped children. The MAIN group, in fact, interacted more frequently with the teachers and with materials than with their peers. This tends to support other research (Strain & Shorts, 1977; Peterson & Haralick, 1977) which has shown that the level of reciprocity between handicapped and non-handicapped children has not been found to increase significantly due to mainstreaming.

As we stressed earlier, it is important to describe the nature of the child's involvement, i.e. quality, not just tabulate the quantity of behaviors. Therefore, although handicapped children in the mainstreamed settings did not interact as frequently with other children as did their peers (NI), they were more frequently initiating appropriate interactions and when they did engage in social interactions there was more extended reciprocity. Similarly, although the MAIN children more frequently engaged in interactions with materials than did their peers (NI) their involvement reflected a qualitatively lower level of Use of materials. In contrast, handicapped children in the specialized setting were working more effectively with materials than did these mainstreamed handicapped children, i.e. the work of the SPEC group was significantly greater at Level 4 and 5 than was the MAIN group.

It appears, with the continued trend to initiate mainstreaming, that many of the issues which we examined -- the Intensity and Reciprocity in social situations and the Use and level of involvement with materials -- should be studied in greater depth. This seems to be particularly true in terms of research on social interactions which because of the complexity of the problem has not been fully studied along developmental guidelines (Argyle, 1967).

We do not disagree with the presumed advantages of mainstreaming on an interpersonal level. However, we do believe and our findings support our feelings, that children with special needs do not necessarily need a "special educational program", but a program in which the curriculum, methods and materials are selected, adapted and modified in a manner which will optimalize the performance of the child with special needs.

## PARENTS

Parents of children with handicapping conditions have been a crucial force behind the legislation mandating "mainstreaming" and the current efforts to implement this legislation (Abeson, 1976). The experiences and perceptions of parents of preschool children who may or may not be involved in integrated situations have not, however, been adequately explored. We have been engaged in a study of the attitudes of parents of children in different types of settings: mainstreamed, normal, and "special". To this purpose, we have been in contact with parents of "normal" children as well as parents of "handicapped" children in all three types of settings. Our primary interest was in exploring the perceptions of these parents with regard to mainstreaming. We were particularly interested in studying the commonalities and differences between the attitudes of the parents of the handicapped child whose child is in a normal setting, the parents of handicapped children who are currently in specialized settings for the handicapped, and the parents of normal children in integrated and non-integrated settings. We were interested not only in their attitudes toward the handicapped child but also in their varying attitudes toward preschool education and what they hoped to see their children gain from the experience.

### Method

Subjects. The subjects for this portion of the study were the parents of the children who were observed. The families of all the children were contacted and appointments were arranged at either the school or at the home. The majority of the parents contacted were able to arrange interviews. However, in some cases, families could not be reached by phone, did not respond to letters or were unable to arrange for the hour-long meeting with the interviewer. This was particularly true in the specialized settings since these children did not live within the neighborhood of the school and were transported to and from school by bus.

During the two years of the study, 83 parents responded to two questionnaires and were interviewed. A sizeable proportion, 32% of this sample, were parents of handicapped children.

Sources of Data. The sources of data related to the parents were: a questionnaire to elicit general attitudes toward the handicapped, a questionnaire to assess parent attitudes towards mainstreaming, preschool programs and parental expectations for their child, and a semi-structured taped interview.

For the purpose of eliciting general attitudes to the handicapped, all parents were asked to respond to the twenty-item Likert-type scale, Attitudes Toward Disabled Persons (Yuker, Block & Young, 1970). This questionnaire is designed to assess the extent to which people view the handicapped as different from or similar to themselves (see Item 1, Appendix IV).

We were also interested in the attitudes of parents of preschool-age children to preschool education in general and to mainstreaming specifically. Available questionnaires, however, tended to focus on the attitudes toward education in general, on handicapped adults (Comer & Piliavin, 1975; Siller & Chipman, 1964; Siller, 1970), on the feelings of parents of the handicapped related to their own child (Wolfensberger & Kurtz, 1971; Evert & Green, 1957) or the attitudes of parents towards child-rearing in general (Schaefer & Bell, 1958; Thomas & Chess, 1977).

It was therefore necessary for us to develop a scale designed for parents of preschool-age children. A forty-seven item Likert scale was developed (see Item 2 , Appendix IV ). Approximately 28% of the items focus upon mainstreaming the handicapped child with an equal proportion upon the parents' attitudes toward preschool education in general. The remaining 44% were designed to elicit a parent's feelings toward his/her own child. (For example, "My child is more independent than the other children.") Some questions were repeated in a varied format in order to assess internal consistency (see questions 18 and 27; 10 and 31; 30 and 39; 14 and 42).

The semi-structured interview (see Items 3 a and 3 b, Appendix IV ) was based upon the format developed over the past eight years during weekly sessions with parents of very young multi-handicapped children (Gordon, Jacobson, Gitler, Schwartz, & Ezrachi , 1975). For the purpose of our current study this guided interview was organized in two sections. The first section, questions 1-7, was the same for parents of normal and handicapped children. These questions asked the parent to talk about their child's development and was intended to put the parents at ease. The next two questions, 8 and 9, attempted to elicit the parent's specific reactions to their child's class in general and to the issue of mainstreaming. The remaining questions, focused more on specific concerns regarding the integration of handicapped children into a classroom designed for normal children, and varied in their wording depending upon whether or not the parent had a normal or handicapped child (see question 11, Item 3 , Appendix IV). Since it was felt that more information would be elicited if the session was informal, the interviewer worded the questions in such a way as to make the session as conversational as possible. That is, rather than ask Mrs. J "Do you have any feelings or concerns about your child being in an integrated classroom?", she was asked "....Do you think it has worked for her being in a group of so-called 'normal' children?" When Mrs. J. replied, "Yes, I really do", it was necessary for the interviewer to probe deeper and ask "Could you expand on that? Why do you think it's been good for her?" Thus, for each parent the interviewer asked the same questions but paraphrased them, and where necessary, probed the feelings of the parent on a specific topic.

Procedures. All data related to the parents were collected by a senior member of our staff who has had an extensive background in child development, preschool education, as well as experience and involvement with parents of young children.

Parents, after signing a consent form which described the procedures to be used, were contacted by the interviewer. The appointment, approximately one hour in length, was arranged at the parent's convenience, during the day, in the evening, at school or at home. Where necessary, a Spanish or Chinese translator accompanied the interviewer. All questionnaires were also translated into these two languages.

At the time of the scheduled appointment, the interviewer again reiterated the purpose and focus of the study, and requested the parent's permission to tape record the interview (all parents consented to this procedure). The parent(s) was then asked to respond to both questionnaires and were told that during the interview which followed they could discuss any of the items on the questionnaire which troubled them. It took each individual from fifteen to forty-five minutes to answer both questionnaires. Following this, the interviewer began the guided interview described above. These interviews were tape recorded, with the parent's consent.

Steps in Analysis. Following the session, the questionnaires related to each parent were tabulated. For the ATDP the procedures outlined by Yuker (Yuker et al.,1970) were followed and a summative attitude score was determined.

On each of the 47 items on the Parent Attitude Survey (PAS) each item was tabulated for agree or disagree, with a response of 1, 2 or 3 tallied as agreed and an answer of 4, 5 or 6 counted as disagreed. For each of these items, the proportion of handicapped and non-handicapped parents who agreed with each item was computed.

All interviews were transcribed verbatim. In instances in which a translator was used, only the paraphrased translated English responses were transcribed. The interviewer then read through each interview underlining the salient responses to individual questions. As noted before, the sequence may have varied somewhat in order to maintain the conversational nature of the questions. For each parent the responses for individual questions were noted on a separate summary sheet. Questions or themes which were not explicitly requested were annotated. The summary sheets for the interviews were reviewed and categories of responses for each question and for themes which were common to many parents were enumerated.

## Results

Generalized Attitudes to the Handicapped: Attitudes Toward Disabled Persons Questionnaire (ATDP). During the first year of the study, 28 parents responded to the ATDP. This represented the parents of seven handicapped children in specialized and in integrated settings and 21 non-handicapped

children in mainstreamed classrooms. The scores for both groups were very similar, a mean of 77.86 (S.D. = 17.36) for the parents of the handicapped with scores ranging from 56 to 103 and a mean of 76.10 (S.D. = 19.49) for the parents of the non-handicapped whose scores ranged from 31 to 104.

In order to interpret the meaning of these scores it was necessary to compare them to established norms which are given in the manual for The Measurement of Attitudes Toward Disabled Persons (Yuker, et al., 1970) A relatively high score on the ATDP indicated that the respondent sees disabled people as not being very different from non-disabled people. The mean score for non-disabled female adults (the parent that responded was the mother) is 75.63 with a standard deviation of 13.48.

The attitudes of the parents during Year I, therefore, were typical of the general population who did not regard disabled people as very distinct from non-disabled.

A total of 45 parents responded to the ATDP questionnaire in Year II. The scores of the 38 mothers of non-handicapped children ranged from 31 to 115 with a mean of 76.13 and a standard deviation of 21.36. For the seven parents of handicapped children, the scores ranged from 47 to 82 with a mean of 67.43 and a standard deviation of 13.62.

Thus, parents of non-handicapped children scored slightly higher or saw disabled as not that different from the non-disabled in contrast to the parents of the handicapped child whose scores were lower indicating perception of greater differences between handicapped and non-handicapped.

Year I vs. Year II. It appears that in both the first and second year of the study parents in general had a similar range of reactions to handicapped individuals when the mean and standard deviations for non-disabled adults is compared with that obtained from our sample.

Survey of Parental Attitudes Toward Preschool Education and Mainstreaming: Parent Attitude Survey (PAS). In Year I nine parents of handicapped children and 23 parents of non-handicapped children responded to the 47-item questionnaire developed by our staff to assess the feelings of parents toward their own children, mainstreaming and handicapped children. Table 1, Appendix IV presents the summary of the responses of these parents to all the items.

There were 17 items where there was more than a 10% difference in the proportion of the parents who agreed with particular questions (these items were noted by an (*) on Table 1, Appendix IV).

In examining these differences it appears that parents of handicapped children, in both specialized and mainstreamed settings, had greater expectations than parents of non-handicapped children, that preschool education

would: (1) increase their child's cognitive competence (Item numbers 8, 17); (2) improve their child's physical well-being (Item 1); and (3) make their children more independent (Items 15, 20). An apparent controdiction was that parents of the handicapped child strongly disagreed that playing together was more important than learning numbers (Item 8) and then on Item 30, they all agreed that the most important thing their children could learn in school was getting along with others.

Based on the results of the PAS there appear to be some differences in the way these two groups of parents perceive mainstreaming. Parents of non-handicapped children appeared to agree more frequently than parents of handicapped children with statements in favor of mainstreaming (Items 19, 21 and 31). That is, parents of non-handicapped children had quite different perceptions of mainstreaming than parents of the handicapped.

However, in terms of the needs of the handicapped child, parents of normal children perceived a greater need for specially designed classrooms, with 68% of these parents agreeing with this item (No. 41) and only 33% of the parents of handicapped children thinking that special facilities are needed. There were comparable differences in the way these two groups viewed the need for additional teacher time for the handicapped. While none of the parents of handicapped children thought that normal children would receive less teacher attention if physically handicapped children were mainstreamed, 18% of the parents of normal children believed this to be so, with fewer parents of handicapped children than normal parents worried that their child was not currently receiving enough teacher attention.

A total of 51 parents responded to the PAS in the second year. For the purpose of the analysis of attitudes it was felt that it would be more meaningful to include the responses of as many parents as possible. Therefore, the questionnaires of parents of normal childen who were observed but not included in the matched sample (NI) were included. Table 2, Appendix IV presents the percentage of parents who agree and disagree with each of the 47 items, with a separate breakdown for parents of handicapped and non-handicapped children.

Of the 47 items on the questionnaire, the following 12 were found to most clearly differentiate the attitudes of parents of handicapped and non-handicapped children. The following table presents these items:

| | | Percent of Parents Agreeing with Item | |
|---|---|---|---|
| | | Handicapped | Non-Handicapped |
| 7. | I worry about whether my child is getting enough teacher attention. | 50% | 25% |
| 11. | Some children need to be protected more than others. | 100% | 72% |
| 12. | Preschool will make my child more intelligent. | 82% | 59% |
| 17. | My child's IQ will increase because of preschool. | 82% | 67% |
| 18. | I don't worry about my child picking up odd behaviors from other children in the class because he/she will outgrow them. | 20% | 83% |
| 27. | I fear that my child will imitate odd behaviors of other children in school. | 10% | 25% |
| 28. | My child spends most of his/her time in class playing with toys by himself/herself. | 38% | 8% |
| 29. | My child is more independent than other children. | 20% | 58% |
| 37. | My child does not like to share with other children. | 40% | 13% |
| 40. | Sometimes my child doesn't want to go to school. | 18% | 36% |
| 44. | Normal children get less teacher attention if there are handicapped children. | 30% | 31% |
| 46. | I am afraid my child will get hurt in school. | 56% | 21% |

On many of the questions relating to mainstreaming both groups responded in a positive fashion. Almost all parents perceived mainstreaming as an opportunity for the handicapped child to learn to deal with the real world (Question 4: 100% H, 95% NH). This was supported by the fact that there was strong disagreement with the statement that handicapped children should be in a class with children like themselves (73H, 75% NH). There was also general agreement with the statement that handicapped children will learn

more in a class with normal children (67% H, 77% NH) with both groups agreeing that handicapped children should get the special attention they need within the normal setting (91% H, 82% NH). However, parents recognized that all children, even normal, have special needs (92% H, 97% NH).

When examining the issue of mainstreaming in terms of the types of additional services and equipment which may be needed, both groups agree that there is a need for more teachers. Parents of handicapped children were more apt to make this reponse (70%) than NH (59%). Parents of handicapped children also tended to worry more about their child getting enough teacher attention (50%) than NH (25%), but parents of these handicapped were just slightly more likely to believe that their child requires more teacher attention (40%) than NH (32%). It is interesting and important to note that parents in general disagreed with the statement that normal children will get less teacher attention if there are handicapped children in class (80% H, 69% NH). There was also strong agreement that handicapped children need special educational materials (toys) and equipment (82% H, 66% NH) and specially-designed classrooms (64% H, 61% NH). Parents were very firm in their belief that these additions -- teachers, equipment and materials should not have to be paid for by the parents of handicapped children (82%% H, 85% NH).

There were apparently some concerns about the risks of mainstreaming, particularly for parents with a handicapped child. In responses to the two statements concerning their child imitating the behavior of other children, there appeared to be a contradiction in that 20% of H and 83% of NH agreed that they do not worry about their child picking up odd behaviors from other children because their child will outgrow them. However, in response to another statement that their child will imitate the odd behavior of other children, 10% of the H and 25% of NH had this fear. In response to the first statement, it appears that 80% of the parents of the handicapped do worry about their child "picking up" odd behavior while in response to the second statement, only 10% expressed this fear of imitation of behavior. A possible explanation is the manner in which the first statement was worded. Perhaps the parents of handicapped worry about whether their child will outgrow the behaviors they picked up. This qualification was not part of the second statement. Parents of the handicapped tended to be more afraid that their children will get hurt in class (56%) than parents of non-handicapped (21%). Every parent of a handicapped child responded that they believed that some children have to be protected more than others. A majority but smaller percentage (72%) of parents of non-handicapped children also believed this.

An examination of the question on the general benefits of preschool education indicated that all parents felt that preschool programs make children more sociable. The vast majority agreed with the statement that the primary objective of the preschool was to enable children to get along

with people (91% H, 85% NH) and consequently they overwhelmingly disagreed with the statement that "learning the alphabet, colors and numbers in school is more important than learning to get along with other children in the class". Both the parents of handicapped and non-handicapped children seemed to believe that preschools will increase their child's intelligence level (80% H for both questions; and 59% and 67% respectively for NH).

There were another group of questions which focused upon the way the parent perceived their own children. When parents were asked if they felt that their child was independent enough, 80% of the parents of handicapped and non-handicapped emphasized the need for their children to learn to be independent. The majority of the parents of non-handicapped children (80%) saw their child as more independent than other children while only 20% of handicapped believed this to be true. Both groups strongly believe that their children do not need them at school (100% of handicapped and 97% of non-handicapped). However, 38% of parents with handicapped children believe that their child spends most of the time in class playing with boys by himself/herself while only 8% of the non-handicapped believe this.

Comparison of Year I and Year II. When comparing the responses of the parents from the first and second year of the study there were few differences in the reactions of the parents of handicapped and non-handicapped children. The items which reflected differences between two groups of parents remained quite consistent fron one year to the next. There were, however, ten items with differences of as much as 30% (see Table 3 , Appendix IV) between the proportion of parents agreeing during Year I and Year II. Of these, only two questions (18 and 46) reflected a significant ($p < .05$) shift from one year to the next. The samples of parents of non-handicapped children also had similar responses from one year to the next with the exception of one question (No. 37) on which there was a significant difference.

Issues and Themes Expressed by Parents in Semi-Structured Interviews. Although the parents, and most of the settings, changed from Year I to Year II, the interview format with regard to questions on mainstreaming was held constant. There were three major sets of themes which emerged from the analysis of these interviews:

1. Mainstreaming can be a positive learning experience.

2. There are concerns about the effects of mainstreaming on both normal and handicapped children.

3. Parents do not categorically accept mainstreaming. It must be carefully considered for each individual child.

An interesting and serrendipitous finding was that parents enjoyed and welcomed the opportunity to discuss their children at length with a stranger. That is, after spending approximately twenty minutes answering questionnaires, they willingly spoke about their own child and mainstreaming for another forty-five minutes to an hour.

Year I. During the first year of the study the parents of eight handicapped children in a specialized setting and three physically handicapped children in mainstreamed settings were interviewed. Twenty-one parents of normal preschoolers in mainstreamed settings were also interviewed.

When the issue of mainstreaming was raised, the majority (81%) of parents of normal children in the integrated settings preferred having their child in a mainstreamed class rather than a class without a handicapped child. Only 43% of the parents of handicapped children, however, favored mainstreaming for their child.

Parents had various reasons for supporting integration. The reason raised by 67% of the parents of normal children and 55% of the parents of handicapped children who favored mainstreaming was that integration is a positive learning experience. Speaking of the benefit for her handicapped daughter in the mainstreamed class, one mother said:

> "I think it will help because if she was with other kids that have the same problem like her, she would be thinking about it all the time. This way she wants to do more for herself, she will try to learn what a normal kid does, and being with them will make her more alert."

Parents of normal children felt it also had positive benefits, but for other reasons. The father of one child in a mainstreamed class said:

> "Yes, for the kids I'm very happy with what's going on. I work with retarded kids, and I think it's a very good idea to mix retarded kids with the normal kids....I think being among normal kids, they will have more enthusiasm to do more for themselves, seeing the other kids doing this for themselves. It will just unlimit their span of willingness to do....being with normal kids, there's always something new to try and the retarded kid tries too to achieve that goal, and by trying, they can do it."

Parents of 52% of the normal children stressed the fact that mainstreaming reflected reality and therefore, is a good practice for both handicapped and normal children. For example, shen asked whether she would prefer an integrated classroom, one mother said:

> "As long as it weren't overdone. I think it could be overdone, I think if it were mostly handicapped or even half handicapped children,

> I would feel differently. In other words, I think in this class it's a fairly normal world -- I mean I don't know how many handicapped people there are in the world, but I think it's a realistic kind of situation. In other words, some people have handicaps and other people don't."

Or, as another mother of a non-handicapped child said:

> "I think it's good for all children to be together, to see that there are problems in dealing with life, and try to work with them."

Occasionally, parents of handicapped children raised the point that mainstreaming would make normal children more compassionate. Mrs. M. spoke of how the normal children who interacted with her handicapped son were aware that sometimes her son ...

> "needs a little help, and if he's doing something he's not supposed to, they'll go up and tell him to stop it. And I think they feel protective of him, which is nice to see".

That is, they perceived his differences and had learned to deal with him with understanding.

When considering the benefits of mainstreaming, some parents of normal children (20%) also perceived that mainstreaming not only reflected reality but also would engender more understanding of people in general. As Mrs. C. said:

> "It just makes them aware that there are handicapped people, and also, I think it just helps them learn consideration and kindness for people. My husband and I were discussing it the other night. I had mentioned to him about the interview and the study program. And I was saying that C. seems hardly aware of the children having handicaps ....my husband added that he's aware of the handicap but he's not obsessed by it, or even when he has questioned different things on occasion, it's never been an obsession or a frightening thing for him. And I think he probably has grown to be kinder not only to handicapped people but to people in general."

Some parents of normal children (29%) felt that mainstreaming would make their children better copers. None of the parents of handicapped children raised the point that it would make their children better copers.

There were also some concerns about mainstreaming. These concerns differed somewhat for parents of normal and for parents of handicapped children. Only three of the parents of handicapped children favored a mainstreamed classroom rather than a special class (two whose children were in the specialized setting and one whose child is currently in an integrated classroom). In fact, an equal number of parents (3) of handicapped children preferred a special setting. As one mother said about her child:

> "I'd rather keep him in a special class because I don't think he can cope with a normal class."

Parents of handicapped children in specialized settings seemed more ambivalent about what type of classroom would be appropriate for their child. One mother said that she knew that it was important for her wheelchair-bound child to learn to get along with normal children, but she also feared the experience:

> "I think it will be hard for him because of the kids, because they'll see he's different, and he'd be the only different one there."

Similar confusion is evident in the statement of another mother of a handicapped child who had agreed with the interviewer's statement that some people feel that handicapped children get more confidence in a special setting,

> "I just think it makes everything easier (being in a special setting) because everything is geared to their needs, but life out in the world is not going to be."

For a mother of a normal 4-year old and a handicapped 3-year old attending the same school the conflict is even more evident. In reference to her normal 4-year old daughter, she said:

> "I don't think that she needs that much exposure to someone doing the wrong thing all the time."

At a later point in the interview the described the benefits of this setting for her handicapped daughter who would be moved from her specialized classroom into an integrated classroom when she had acquired some basic self-help skills.

Parents of some handicapped children had some real concerns as to the physical and emotional well-being of their children in a mainstreamed setting. The statement of one mother whose handicapped child was ambulatory, illustrates the feelings of several mothers:

> "She might go into a regular school and mix with those children and then all of a sudden they might get tired of her and she'd be cast aside and hurt and won't want to try again."

One mother verbalized some concern about her daughter's physical well-being:

> "With R. it would be kind of difficult, I think, to make that decision to put her in with other children ....my biggest concern is her being hurt by getting knocked down or something, because I've seen it happen."

One of the fears that we had presumed that parents would have about mainstreaming was that their children might pick up behaviors or mannerisms of other children. There was some concern by 50% of the parents of normal children and 27% of the parents of handicapped children. All the parents of normal children and 9% of the parents of handicapped children, however, qualified their statements in a manner similar to the following:

> "....it is something that children in school just pick up.... he might do it for a while and then just stop."

While discussing how her handicapped child dealt with the comments and actions of children who might imitate him, one mother revealed the following:

> "....each of them at different times asked why he walked with a walker, why he wore braces....He tells them God made a mistake. That's it. All a child wants is a answer. Last time I was there Caroline was trying to imitate him and he said to her 'No, you go like a robot', it didn't bother him at all."

There were several factors which indicated that parents did not categorically accept mainstreaming for all children. There were many comments about the need for flexible planning, relating specifically to the degree and type of disability, the staff/child ratio and the timing of mainstreaming for the individual child. Parents of many normal (43%) and handicapped (40%) children qualified their statements about mainstreaming by saying that the degree of disability was an important factor in integration. By degree of disability parents were often referring to intelligence level more than physical handicap (29% NH, 45% H). For other parents of normal children this meant a child with severe emotional problems:

> "An emotionally troubled child can really upset the classroom. I think then you have to have an adult who can handle it. But I find no problem with having a physically handicapped child here."

Mainstreaming of one or two handicapped children in a normal classroom did not seem to elicit many concerns from parents of normal children about their child not getting sufficient teacher attention. If the ratio of normal to handicapped were increased, however, most parents (90%) of normal children and 55% of the parents of handicapped children did feel the need for additional staffing.

A mother of a handicapped child who was in a mainstreamed classroom described what she thought would be the ideal ratio for her son:

> "I would choose to have about six other children that are handicapped. And I guess it's discriminating, but some slightly more handicapped than him, some slightly less, but not very, very handicapped because I know how hard it is. I would like this class to be in the school that he is in now with another teacher who was specially trained along with the teacher who was regularly there. And, therefore, having children that are 'normal' and children who are handicapped."

Although some parents of handicapped children (27%) did not favor mainstreaming at the current time it is clear from the comments of at least one mother of a child in a specialized setting, that this option should be considered:

> "I would really like to see how C. developed physically. Right now she's just beginning to hold her own without much assistance and it will really take some more time to see how well she did."

In summary, parents of normal children appeared to have a more favorable view of mainstreaming and its benefits than did the parents of handicapped children. Parents of handicapped children in both integrated and special settings were in favor of it only under special conditions. That is, there was both ambivalence and concern about placing their physically handicapped children in normal classrooms.

Thus, while we can present the varying opinions of parents, we cannot say conclusively that a specific group of parents expresses a set type of attitude. There were many different opinions expressed during these interviews which were on the whole supportive of mainstreaming but less than the apparent support which was found in the analysis of the questionnaires.

Year II. In the second year a total of 39 parents were interviewed, 20% of these were parents of handicapped children in mainstreamed and special settings. For the purpose of analysis, the responses of both these groups were tallied together and form a handicapped (H) group. The parents of normal children in mainstreamed settings (parents of the NI group and parents of the NORM group) were also grouped together as a normal (N) group. The analysis of interviews for the second year revealed that the comments of the parents with regard to mainstreaming fall within the three categories or themes outlined originally on p. 56.

As in Year I, many parents supported mainstreaming. The reasons for this support can best be subsumed under the thematic heading that "integration is a positive learning experience". The majority of the parents discussed this theme (68% of the parents of non-handicapped and 75% of the parents of the handicapped children). That is, they did not feel that the presence of handicapped children in the classroom would interfere with their children's educational program. On the contrary, they felt that normal children had something to learn from children with physical handicaps while children with physical problems would benefit from interaction with their "normal" peers.

Many parents made the point that, for the "normal" child, the experience of seeing the handicapped child deal with difficulties would makde better "copers" of their children. In fact, the idea of "coping" was mentioned frequently by parents (65% N, 75% H).

As one mother of a normal child who attended a school in which two children were mainstreamed, said:

> "I think it's healthy. That's the way it is and the handicapped child does have to function in this world and the normal child does have to function with handicapped people around. You can't put them all in closets. So although it may be disturbing, it is and it has to be dealt with. I think that short of disrupting an entire classroom and making it impossible for anyone else to function, they should be there. If you have to make some small adjustment and if everybody has to pitch in and help, that's fine. If the child shows signs of crumbling under the strain, you have to get them out of there. But if they are still functioning, then it probably is going to build their character for later."

Not all parents of handicapped children agreed with this concept. A parent of a handicapped child who attended a special school had a different impression of the concept of coping with handicaps. She did not feel that her child was as yet ready for a normal school setting:

> "You see, I don't think I'd let my child be put in a school unless he's ready for it. I have to see that he can cope with it, that he can manage without having any special person there to take care of him. Then and only then I'll let him go on his own."

Many parents of non-handicapped children (61%) felt that mainstreaming reflects reality and is good, therefore, for both handicapped and normal children; however, only 50% of the parents of handicapped children also supported this concept. The parents that took this position seemed to feel

that people are different, they have various strengths and weaknesses, and the experience of the young child should mirror this reality. This was expressed by approximately 60% of the parents of non-handicapped children in both mainstreamed settings and in a classroom in which children with physical handicaps had not been integrated.

Stated in another fashion, the parents of normal children seem to feel that their child's exposure to peers with physical disabilities would contribute to their child being less fearful and less uncomfortable than might otherwise be the case when they meet physically disabled people later in life. One Head Start parent whose child was in a non-integrated group, said:

> "I'd rather have them all mingle....I think it's better for them as they grow older. 'Cause you don't know what's going to be ....if they have children and something's wrong. They accept everything. Not that you'd want it, but you never know."

Parents of both handicapped and non-handicapped children also tend to feel that excessive psychological protection was not good, that children needed to be taught "to do with the world as it is".

A great many parents of non-handicapped children (61%) proferred the view that experience with children with physical problems would generate feelings of compassion in the normal children, and increase their understanding. This was stated in a variety of ways but is best summarized by a mother of a non-handicapped child in a mainstreamed classroom as:

> "Some of these children when they grow up have never seen children with any other problems. It is harder for them to accept them, but when they are accustomed to being with these children (physically handicapped), they know their needs and have sympathy for them.

Many parents expressed the feeling that although they themselves felt uncomfortable and inadequate in the presence of a physically handicapped individual, they did not want their children to develop these feelings. They felt that acceptance would come more easily and naturally to children who had been exposed to disabilities at an early age, and equaled such acceptance with a positive goal. Another Head Start parent said:

> "....we don't have experience with people who are abnormal in some way. Our tendency is to shy away from those people. I think it's because these people are often shut away from us. If kids can have the experience of being in school with all kinds of people, they'll learn they are people like themselves who may have a particular kind of problem. If they have experience with other kids, it's good ...."

The second set of themes which emerged from these interviews related to the parents concerns about the actual effects of mainstreaming on the classroom and on the handicapped child. Although 70% of parents of normal children in integrated classrooms supported mainstreaming, parents had reservations and concerns about the presence of the handicapped child.

There was less emphasis on the theme that mainstreaming was good because it reflected reality among parents of children in the "special" settings (only 50% of the parents of handicapped children discussed this theme) than among parents of handicapped children in integrated settings. The former group, whose children were in the specialized settings were more concerned than other parents that their children be protected in a physical sense. As Mrs. S. says of her child who is just learning to walk:

> "Right now if he were put in a regular school it would be difficult for him. The kids would be running around and he's confined now so he'd be running after them in a wheelchair and he'd probably hit them without meaning to. He'd probably hurt them. In a way it just wouldn't be safe. If he hit one of the kids, who knows what the kid's reaction might be -- thinking he's doing it spitefully."

This point was reiterated with considerable clarity by most parents of handicapped children.

During the course of the interview we raised the issue of whether or not parents feared that their child would imitate a handicapped child or be imitated if their child were physically handicapped. Consistent with the PAS questionnaire, there was a strong difference between the two sets of parents, with 71% of the parents of non-handicapped children who discussed this issue not being at all concerened and only 10% being very concerned. The parents of a large majority (75%) of the handicapped children were concerned in varying degrees that their child would be imitated or "made fun of" by others.

The third set of themes which emerged as a result of these discussions were related to the factors which must be considered before a particular child is mainstreamed. In these statements several parents made points which clarified both their responses to the questionnaires and their answers to the questions of the interview. These statements related to the broad heading of the need for flexibility in mainstreaming.

The general plea was for an individualized approach to the problem. Most parents pointed out that the level of functioning of a handicapped child was a prime factor in successful integration, and that teachers could not be expected to manage if they were confronted with a child too far removed from the average.

This specific issue was raised by 75% of the parents of the handicapped children and by about half of the parents of normal children. Although parents did not seem to be particularly threatened by the notion of a physically handicapped child they did raise the point that they were thinking of the physically handicapped child with normal intelligence who could compensate reasonably well with their disabilities. The concept of considering the degree of disability was clearly stated by Mrs. J. as follows:

> "I agree in many cases, but I think that there are some children and there are some problems that really have to be dealt with not in a regular school or maybe special classes. In an integrated class ... absolutely every child should have somebody that knows what is happening and is familiar with the special problems that he has."

Several parents of physically handicapped children also discussed the factor of the degree of disability. Whereas the mother of the normal child above felt that a physically handicapped child would need a special setting, a parent of a physically handicapped child said:

> "You can integrate children with physical handicaps but not those who are mentally retarded."

Other parents were strongly against mainstreaming. Those parents also discussed the degree of disability but with a slightly different focus. While they could see the benefit of mainstreaming for the handicapped child, they did not necessarily think that a mainstreamed class would be the best educational setting for their own normal child.

When one mother was asked how she felt about the policy of integrating handicapped children she replied (through a translator) that she would not like more handicapped children in her son's class and that she thought it was better for the normal child to be in a class without handicapped children.

> "The handicapped child should be in a handicapped child's class not together with the normal ones. However, I think the handicapped child could learn something good from the normal child."

The comments of one of the mothers indicated that there was some concern about the adequacy of the teacher/child ratio and the training of the teachers if more children with handicapping conditions, or children with more involved handicapping conditions, were integrated. A third of the parents of non-handicapped children felt that there was adequate staffing at present. However, half of the parents of non-handicapped children felt that more staffing would be needed if (more) handicapped children are brought into the classroom. All of the parents of the handicapped children agreed that the handicapped child does require increased staffing.

It was not felt that physically handicapped children necessarily demanded more teacher attention. Parents of children in the integrated group felt that integration had worked well in their child's class. Most parents pointed out, however, that the proportion of handicapped children in a group as well as the degree of disability was of primary importance in terms of teaching staff. All felt that more teaching staff would be needed if the ratio of handicapped to normal children was high, or if a child could not function with considerable independence. Mrs. E. felt that the ratio of teachers to child clearly depended on the type of disability and number of children, stating:

> "If it's an emotional difficulty, yes. If it's a physical difficulty, no. In the beginning it would be, I think, an adaptation period for the child. But once the child learns to physically do things, but an emotional handicap would definitely create problems. Regarding emotionally handicapped children, I think the classroom should be smaller, the relationship between the teacher and children; the number ratio would have to be smaller for the child to learn. But physically I don't think so .... I think if the child is intelligent, as compared with the other children in the class, I don't feel there's a need for special attention just to physically adapt him to what he has to do in the classroom."

In other words, the feeling was that the presence of a physically handicapped child did not necessarily mean that more teacher time would be given to that child. From other comments, it is clear that parents thought that the system should be flexible enough so that teachers could call on extra resources as needed. Such "resources" might range from a para-professional in the room, to a special education teacher, to a consultant who would be available to the teacher as needed.

Flexibility was a key word particularly among the parents of children with handicaps. Some parents of children in the special class felt that this setting was necessary in the early years, but that at another time a "normal" setting might be preferable, if support services could be provided. When speaking of her handicapped daughter, one mother whose child is in a special school, said:

> "She has to learn to live in the real world. She can only do that by associating with normal children -- I think that's where play comes in. She definitely needs special school, although she's bright, she has trouble writing and seeing."

A parent of a child with the diagnosis of cerebral palsy, who had been in the IRM in-patient and out-patient programs for two years, felt that her daughter badly needed to interact with "normal" peers. Mrs. R., therefore, placed her daughter in a regular nursery school (one of our integrated settings). Mrs. R. felt that in the near future she might again need a special setting:

> "where she will get the extra attention she needs in handling a pencil, picking up objects so she can begin to write, or make certain symbols. She will need a smaller group for this type of learning....she is going to need someone who has the time and patience to put into her and she is going to need a smaller group....she is going to have to be in a group where there are some children not as bad off as she is and some who are, so there will be a balance.... there is a time for segregation and a time for integration, just as in life".

This parent put the case very strongly not only for individualized programs, but for alternative choices. Sensitivity both to the child's immediate needs and to his future development is imperative.

In summary, there appears to be considerable acceptance of the concept of mainstreaming by parents of handicapped and non-handicapped children in mainstreamed and non-mainstreamed settings, in special settings and normal settings. However, from this sample, it was also evident that parents were aware that the practice of mainstreaming needed to be carefully considered with decisions based on the individual needs of the child.

## Discussion

Interviews with parents of both handicapped and normal children produced more detailed and revealing information as to parents' reactions to the handicapped and mainstreaming than did questionnaires.

In theory, parents identified the practice of mainstreaming as a positive learning experience for all children. However, when spontaneously reacting in a semi-structured interview session, some less positive reactions emerged. Parents often qualified their statements. Experience of this department in prior studies as well as those of other investigations (Barker, Wright & Gonick, 1946; Comer & Piliavin, 1975) indicate that questionnaires frequently elicit answers that are thought to be those which would satisfy the examiner rather than information reflecting a true personal attitude. An extended interview with a non-judgmental and skilled examiner can yield material which includes the more subtle nuances of attitude and feeling. One parent thought integration was correct "as long as it wasn't overdone". Others raised the issue of ratio of handicapped to normal. As the ratio increased, the need for additional staffing was required.

Understanding of the pathology and associated problems of the "physically handicapped" children in the study, however, appeared to be lacking and/or confusing. This was reflected in many interview sequences during which parents expressed their acceptance of children with physical handicaps in contrast to their concerns about integrating children with mental handicaps. Many of the children in the study had mild Central Nervous System disorders and were diagnosed as Cerebral Palsy. This diagnostic entity suggests not only motoric-physical disorders but too often concurrent problems in communicative skills and relationship-thinking or, more simply, interference in mental functioning. Parents were seeing and evaluating only the physical needs of the handicapped child -- not aware of the other areas of development that could require evaluation and special attention and time from the teaching staff.

There were some concerns among parents of normal children whether mannerisms of handicapped children would be imitated. There was also expressed confidence that, in time, acquired mannerisms would diminish. Both groups of parents (of normal and handicapped children) agreed that mainstreaming could result in need for more teachers to eliminate their "worries" that their children were not getting sufficient time of the teacher.

Parents of some of the handicapped children expected more from the school program. These parents expressed a greater need for a program that stressed cognition, physical well-being, more independence and opportunities for increased socialization. In reference to the patterns of play, one of the parents described her handicapped child (in a mainstreamed setting) as spending a good portion of time in class playing with toys by herself. This suggested a pattern of isolation rather than the independence sought by parents.

Discussions using the interview format often brought forth more of the ambivalence and reservations of many parents of handicapped children. In fact, a significant portion of parents of handicapped children in specialized settings were quite content with this type of placement. Parents at the non-integrated setting (NORM) were anxious about integrating handicapped children into their children's classrooms, feeling that it would impinge upon the quality and type of attention available to their normal children. This setting had an unusual distribution in that one-third of their population were Chinese families.

Based upon our meetings with parents from varying backgrounds and in a variety of settings, it is clear that while mainstreaming may be accepted in principle this attitude shifts somewhat when there is a direct and personal involvement with mainstreaming.

## STAFF

We initially became involved with Head Start Centers when they were mandated to integrate handicapped children. During a three year outreach* effort, we worked with staff from 19 participating centers. It was clear then that there was a tremendous need for support and consultation if mainstreaming was to work effectively. Therefore, in this current study we have begun to assess how the educational staffs of Head Start Centers, Day Care and Nursery Schools for normal and handicapped children react today to the concept of mainstreaming and the needs of handicapped children.

## Method

Subjects. The subjects for this study were the primary educational personnel who worked in each of the classrooms during the two-year period of this pilot investigation.

The data from both years will be presented together because there was some overlap in the staff from Year I to Year II. (The specialized settings and one of the integrated classrooms remained the same although the children changed.)

During Year I we met with 15 staff members, including seven who worked in classrooms of only handicapped children, the director of a center with four integrated classrooms as well as one for handicapped children and seven teachers working in mainstreamed classrooms. In Year II we met with 12 additional staff members, nine working in mainstreamed classrooms (MAIN and NI) and two in a Head Start classroom where there were no physically handicapped children (NORM).

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Number of Staff in Study

| | SPEC | MAINSTREAMED | NORM | TOTAL |
|---|---|---|---|---|
| Year I | 7 | 5** | 0 | 12 |
| Year II | 5* | 9 | 2 | 11 |
| TOTAL | 7 | 14 | 2 | 23 |

* same personnel not interviewed again
** includes director of center with mainstreamed and special

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* BEH grant

Sources of Data. The primary source of data related to the staff was the semi-structured interview. (See Item 1, Appendix V for Staff Interview for Normal and Mainstreamed Classroom; Item 2 Appendix V for Staff Interview for Handicapped Setting.) This interview was supplemented by a generalized assessment of attitudes to the handicapped using the ATDP (see p. 51 for explanation) and a brief Needs Assessment Questionnaire (Item 3, Appendix V).

Procedures. When meeting with each staff member, he/she was asked to first respond to the ATDP and the Needs Assessment Questionnaire prior to their interview session.

Steps in Analysis. The ATDP score was computed following the procedures outlined by Yuker et al. (1970).

The responses to the Needs Assessment Questionnaire were tallied for the overall groups, with additional comments noted separately.

The interviews were handled in the same way as were the parent data. Each tape-recorded interview was transcribed and then analyzed according to responses to individual questions and by noting prevalent themes.

## Results

ATDP. Based on the scores of the ATDP (Year I: $\bar{x}$ = 79.83, S.D. = 21.12; Year II: $\bar{x}$ = 97.57, S.D. = 7.78) the interpretation by Yuker et al. (1970) indicated that both groups saw handicapped individuals as not very different from a non-handicapped individual. This was particularly true for those staff surveyed in Year II.

Needs Assessment Questionnaire. In both Year I and Year II the type of assistance which staff members had found to be most valuable was the opportunity for direct observations and discussion of actual programs for special children, focusing upon the adaptations needed to make free play areas (e.g. playgrounds, gyms) accessible to handicapped children. Of secondary value were discussions on attitudes toward the handicapped. Additional training in the assessment of children using educational materials was another area of concern.

In response to a question which asked them to rate the areas in which they needed assistance to increase their effectiveness, the staff surveyed in Year I indicated that their highest priority was for experience in the "developmental assessment of children and identification of problem areas". In Year II this was a secondary priority. The desire to know more about modifications and adaptations in the learning environment was rated as the primary need.

Although the Needs Assessment Questionnaire gave us some idea of priorities for future workshops, it was the interview which revealed more about subtle differences in attitudes, requirements, and feelings of comfort or discomfort in working with a handicapped population.

Semi-Structured Interviews. Although different formats were used (for staff of specialized settings, normal settings, etc.), all staff members responded to questions about (a) their feelings toward the handicapped in general; (b) mainstreaming and what it entails in their program, or might entail; and (c) their involvement with parents. That is, the taped interview expanded upon the two questionnaires. The opinion of one teacher who worked with a handicapped class in an integrated school, was fairly typical of the type of response to the printed questionnaires:

> "Just putting down numbers on a piece of paper is outdated . . .well, everyone has attitudes, but that was ridiculous. I think to be a teacher you have to deal with your own feelings."

Interviews did give teachers an opportunity to share and at times, vent their feelings.

Because the same format was used and some of the settings were duplicated from Year I to Year II, data for both years will be presented together. It is our opinion that the feelings of the educators about integration of the handicapped were not affected as much by an individual child as by their own personal experiences, background and knowledge.

Attitudes to the handicapped. Teachers in all settings (specialized and normal) stated they felt at ease working with the handicapped children in their own groups. Only about 10 mentioned some initial nervousness about the handicapped. One teacher said that it had probably upset her because she had previously felt pity when seeing the handicapped, but that feeling had passed. Another teacher said that it wouldn't bother her as long as she knew of the child's limitations before being introduced to the child.

In response to a question which asked teachers the type of handicapped child who would give them the most difficulty, it is interesting to note that the staff members at the centers for handicapped children had the most definitive answers. One of the teachers at one of the specialized settings spoke of difficulty in working with a very messy child, another of a child with severe movement problems and a third teacher spoke of her intense reactions when relating to severely retarded children. The director of one of the centers with a specialized program, spoke about a group of children which she said:

> "is pulling my heartstrings and taxing my brain power ...the bright child with no use of his body...the child who can't signal even when they have to go to the bathroom, but they know it and can't control themselves".

A similar sense of anguish was expressed by a therapist as she described her difficulties in working with children with progressive disabilities and continually deteriorating medical conditions.

It was surprising that the teachers in integrated settings did not have such clear-cut feelings about a specific group of handicapped children. This group frequently mentioned that they rapidly overcame their initial concerns and fears as they began to see the child rather than the handicap. A teacher who worked with one severely impaired but bright youngster said:

> "His condition is really so devastating and you don't realize it because of the type of child that he is, because you concentrate so much when working with him that you don't realize that he is handicapped."

Opinions on Mainstreaming. When teachers were asked how they felt about the concept of integrating handicapped children into normal preschool settings, the response was 100% in favor of mainstreaming, reflecting attitudes similar to those of the parents. Similar to parental statements, they described the positive side-effects of mainstreaming, i.e. it reflects reality. This acceptance of the integration of the handicapped child was expressed by one teacher as:

> "I really feel it's a very fine experience, for myself, for the children, for the students (student teachers). I think it's very important, because I feel certainly our generation who have not known people who are different from normal....grow up with certain attitudes and fears. And this way, seeing the children with so-called limited (handicapped) children, is a marvelous thing, because children are very accepting. They're curious, they want to know, but their play has no boundaries to it and they play with a limited child as well as they do with a normal child."

Statements such as this, however, must be read cautiously in that there were qualifications by each of the 27 respondants in terms of who should be mainstreamed; the conditions under which individual children can be successfully mainstreamed; and the adaptations which would have to be made. The three educators (all of whom were directors of centers) who stated that every child could be mainstreamed amended their statement by specifically stipulating how this should be done. The majority of teachers, 63%, felt that only some children could be mainstreamed, with two teachers commenting that they would only want to mainstream one child at a time.

Who were the children who could or should be mainstreamed? A director of a center who is committed to integration for all children felt that a child could not be mainstreamed without "self-help" skills. Two other teachers who work with handicapped children also felt that it depended upon how well the child could manage the basic everyday skills and, therefore, the

severely retarded child probably should not be mainstreamed. As one teacher said:

> "It (mainstreaming) really has to be individualized for each child, otherwise, I think it would be unrealistic to have a severely retarded child in a preschool class of four or five-year olds. His needs aren't met in that particular group whereas his needs will be met in a special class."

He added that perhaps flexible programming might be possible,

> "....he could be integrated to join a socialization period as opposed to where he might need individualized work."

For those in the Head Start centers mandated in the early 1970's to include a set proportion, 10%, of handicapped children, the mandate to "mainstream" resulted in a new way of thinking about "handicapped" children. The educational director of a Head Start program which was mainstreaming children with physical handicaps said:

> "....we were all 'Oh my God', never realizing that within our population of children every year, we had many children who were handicapped, so to speak, children with severe speech problems who were getting a lot of special attention, but we weren't mandated at that point to recognize it as a handicap. I, at that point, was not experienced enough to realize, I just took everything in my stride. You just did what you had to do."

Teachers were quick to point out to us that although we were asking about mainstreaming the physically handicapped child, they had other children included in their groups with needs of varying degrees. As the director of one center stated:

> "I think almost every child in the program has some needs at some time. And maybe some children's needs are greater than others. It's quite surprising how rapidly M. (a child with moderate cerebral palsy) went from the first, or most needy child in the room, to the fifth."

What are the conditions under which these teachers felt physically handicapped children could be mainstreamed into their classrooms? Are there concerns about needing to change their curriculum?

We asked teachers what their curricular goals were for preschool education and how they would change them to meet the needs of the special child. All the teachers to whom we spoke said that their basic goals were almost the same

for all children, that is, focusing upon an early childhood program which stressed individualization of educational goals for each child. As one educator said:

> "I feel, yes, in ways there are differences in curriculum. But again, I think in any program we should be looking at each child as an individual with an individual style, and where he or she is at. And so, in that sense, no, there's no difference, in the sense that there may be a wide range of necessary curriculum inputs; because of the various developmental needs, it may be different."

She later added her comments on specialized curriculum for the handicapped child:

> "....there wasn't any special magic in the special education curriculum. It was a little more focused way of looking at cognitive development."

Two teachers in integrated settings specifically mentioned that their primary goal for the young child was socialization. It is interesting to note similarities in the focus of educational goals for normal and handicapped children. A teacher in a normal preschool which had integrated a handicapped child said:

> "The first thing I want them to do is to get a good sense of themselves as individuals."

When asked if this would shift for the handicapped child, she said:

> "No, not really. Handicapped children have to know themselves too. They have to know themselves. If there are limitations, they can begin to accept these where necessary and overcome where possible."

The teacher of handicapped children said:

> "....well, the main thing is to increase their self-confidence to express themselves socially."

At this point the similarity in their orientation ended and she began to stress, as five of the seven educators of handicapped children did, the necessity of focusing upon specific areas, simplifying and adapting tasks to match with the child's abilities. The educators of the handicapped tended to emphasize the acquisition of skills and experiences which the normal child entering a preschool had acquired in the course of development. That is, for the child with special needs, teachers spoke of this need:

"to give them the love of interaction with environment .... having to go down some steps or even falling a bit and rolling in the grass and getting dirty"

or

"to interact with children -- their peers -- and adults, to lessen their fears about the world, to increase their independence as far as locomotion, and to encourage the child in language and social skills."

What types of accommodations need to be made within the classroom environment? There were many comments on the needs for modification of physical setting, additional staffing and other supportive services. The majority of the teachers, 87%, felt that their classroom could easily accommodate children with handicapping conditions, and all but the two teachers (those in a classroom without any physically handicapped children) found this to be true. The materials already available were found to be adaptable for children's needs, in many cases using a bit of ingenuity, such as a suction cup to stop a bowl from slipping. Though there was little need expressed for changes in the classroom itself, 30% of the staff members to whom we spoke foresaw problems in playground and gym settings. Only 13% of the teachers to whom we spoke raised the issue of problems with wheelchairs, which although a substantial problem for older children and adults, does not significantly affect the young child who can still be accommodated in a stroller.

We also asked teachers if they thought additional staff were needed in order to effectively accommodate handicapped children into normal settings and if so, what type of services these would be. A large proportion, 65% of the staff members to whom we spoke in the integrated preschool settings, said that they currently could use additional supportive services and the same proportion, 65%, said that they would also need additional staffing with handicapped children. In the specialized settings, supportive services of physical therapy, speech therapy, psychologists and social workers were already an integral component. These were services not available in the other settings on a regular basis.

In discussing the optimum conditions for mainstreaming, a staff member in a setting for handicapped children preferred a classroom with additional staff rather than a "super duper adapted plan". This she felt would help those who were ready in other ways to meet the challenges of the "real world".

As she said:

> "If everything is adapted to such perfection that they never have to meet an architectural barrier, I think it's going to come as a rude shock when they go into places that aren't adapted. So that given a choice, I would rather have added help in the classroom to make it easier for kids to get over a barrier here and there, so that it's not something entirely new to them when they meet it elsewhere."

Some teachers, 35%, seemed to feel that the scope of consultation and support which they would need depended on the individual child. Others were more specific, with 26% perceiving a need for consultation in speech and language and 17% desiring an "educational" therapist to give advice on a wide variety of problems.

An urgent request for an individual to work with the families of the handicapped children was made by 21% of the individuals we spoke to, specifically by the directors of the centers. As one director of a day care center which previously had a family counselor, and now through funding cutbacks lost this staff member, said:

> "....it's a tremendous loss....the parents are very clear about the kind of loss it was to them. And I mean, I felt that, when you ask me the question about supportive services, that's a supportive service that I feel is absolutely essential. If it were a smaller center and we had maybe only 10 or 12 children then possibly the director could fulfill that role."

This director of a center with many children with special needs goes on to speak about the problems that many of these families of handicapped children face -- housing, medical, SSI -- as she says:

> "....parents could manage if they had the necessary resources and supportive services, it's not the handicapped child per se...."

Working with Parents. From the comments above, it appears that when considering the integration of handicapped children, one must also think of the families of the children, particularly those with special needs. A secondary concern is the reaction of parents of normal children to mainstreaming. We were interested and, therefore, asked how the teachers and directors perceived the needs of families of both normal and handicapped children.

Forty-three percent of the teachers felt that they needed more contact with parents. Eight of the ten teachers who expressed this need worked with classes for handicapped children, while the ten educators who felt that they had sufficient opportunity to meet with parents all worked within normal preschool settings.

The teachers who discussed the need for more contact with parents were very explicit in stressing that parents of children with handicapping conditions required additional contact with parents in addition to parent-teacher conferences. As one teacher of handicapped children said:

> "We do have meetings with the parents. But I feel that I would like to have them come into the classroom and show them what we do. Not even to come into our classroom to see what their own children are doing. Maybe to go into another classroom and pick up the teacher techniques of another teacher and bring it home and use it with their child."

We also asked these teachers to describe to us the reactions of parents of normal children to mainstreaming. Thirty percent of the teachers stated that either parents weren't aware of or didn't discuss the presence of a handicapped child in their child's class. However, thirty-five percent of the teachers said that parents had at least raised the issue at one time, but no longer perceived mainstreaming as a threat. Two teachers in one classroom mentioned that once parents were aware of the mildly handicapped child in their class, they watched her progress and gains,

> "notice her playing or that she is starting to talk a little bit, so I think they enjoy having her as much as we did."

They added that:

> "we've had more complaints about other children that are supposed to be normal, healthy children that really are terrors".

There was only one director who perceived that parents were seriously concerned, then again, there were many children with severe physical problems integrated in this center.

> "Yes, they are concerned because I've had a couple say to me, 'I'm afraid my child might pick up bad habits from this child.' So I would say the majority of them are concerned about their children in the classroom with children who are handicapped."

## Summary

Teachers in all settings were, thus, in agreement that integration should be attempted when possible. They were also in agreement on needs: ongoing support services through contact with consultants as well as special training for the teacher of an integrated group. Staff members in normal settings indicated a need for more adult assistance, particularly if there were more than one handicapped child in the room. Educators who worked in specialized settings for handicapped children also expressed some reservations and some concerns. One therapist in the special setting observed:

> "....the important thing isn't whether it's a special setting or a normal setting, as long as each child has the individual evaluation and care that they get in a setting like ours. If that could be provided in a normal setting, I think it could work out to be just as good. I don't feel too optimistic that there are a lot of settings that give the kind of individual service and consideration for the children that we do."

The teachers for the most part, therefore, were optimistic about the acceptance of integration by both parents and children. They felt that initial concern on the part of parents could be overcome fairly easily. They perceived normal children of preschool age as being, for the most part, sensitive and protective towards their handicapped peers. The teachers and directors all seemed to regard integration as a challenge which they were more than willing to meet if they were given the support which they deem essential. Without such support, the challenge could very well be overwhelming.

## Discussion

In Year I to II there were few changes in staff's responses to both questionnaires, the ATDP and Needs Assessment. Both sets of staff rated the handicapped population as not very different from the normal.

Although answers to needs assessment questionnaires can produce material that is relevant for future planning of seminars and workshops, directors and teachers were critical of this type of data collection (questionnaires),

> "Just putting down numbers on a piece of paper is outdated..."

They were anxious to share with us their attitudes, their personal reactions (comfort or discomfort) related to mainstreaming and handicapped children, in general, as well as to children with specific disabilities. Richer material was available to us from extended interviews with the staffs of participating centers.

Conditional statements and qualifiers in interviews tended to weaken the overwhelming endorsement in questionnaires. This may in part account for the fact that while there has been support for mainstreaming on the administrative level, this is not as true on the classroom levels. Our findings, therefore, concur with those of Alexander & Strain (1978) who in a review of research in attitudes toward mainstreaming concluded that,

> "regular class teachers may be less than accepting of special children introduced into their class."

The statements of each of the 27 respondents had to be read and evaluated carefully in terms of the conditions under which integration can be executed effectively.

Responses to many of the questions must be interpreted with care. In examining the responses of teachers (in integrated settings) to the question of changes in curriculum, they reported that their basic objectives were the same as their goals for all young children. That is, individualization of educational goals for each child. One teacher claimed that,

> "....there wasn't any special magic in the special education curriculum. It was a little more focused way of looking at cognitive development."

Other comments mentioned as primary goals: increased socialization of the child as well as a sense of self-worth.

The staff from the special setting were more defined and specific in their descriptions of goals and plans for implementation. Their emphasis was on skill acquisition, the need to "match" educational tasks to the current level of competency of each handicapped child. Increased socialization and greater sense of self were not regarded as sufficient by many of the teachers from special settings. Their approach was to be more aware of the differences, distortions and delays in intellectual functions as well as in the social and emotional status of many handicapped children.

The "specialness" of the special settings was seriously questioned by teachers in normal settings which had been mainstreamed. They felt the "real world" was not designed or adapted for the handicapped and, therefore, their classroom settings should not be that different. However, one can well ask how effectively children will function if they are not prepared for this at an early age?

This can be answered. If the very young child's abilities are nurtured in a protective adapted environment where she/he can gradually develop independence of action, an increase in competence in problem-solving tasks, greater comfort and awareness in interactions with peers and adults, then the child has a far better chance at a later date to be secure and effective in a class of normal children and less chance of being a "failure".

A salient issue which cannot be overlooked is that one-fifth of the staffs were concerned with inadequate contact with the families of handicapped children. Directors were particularly concerned with this subject.

Almost half of the teachers in special settings expressed the need for more contact. In this setting, children are "bussed in", transported to the agency without a parent. It is ironic that the availability of transportation, which is so needed by the child and family, simultaneously acts as a deterrent to continuity of contact between the school staff and parents.

There was sensitive awareness that families with handicapped children had unusual problems concurrently -- financial, physical and psychological strain -- that required more than casual assistance from staff members or family counselors. It is our experience and that of others who work with handicapped children that families of children with handicapping conditions must be worked with in order to support their child's educational programs. The need for supportive services for the parents had to be matched with ongoing services to their children.

The teachers and directors stressed positively the "challenge" of mainstreaming. At the same time there were varied degrees of reservations related to this "challenge". More teachers, more support from therapists, more adapted materials, modifications of environment, more family counselors and more contact with and guidance for parents were all deemed essential if the practice of integrating handicapped children is to be effective. Without these programmatic and staff supports, as well as financial resources to allow for their development, the efficacy of mainstreaming would have to be seriously questioned.

## CONCLUSIONS

The intent of our investigation was to examine several aspects of mainstreaming. More specifically, we focused on a set of questions related to the impact of mainstreaming at the preschool level, on children, parents and staff. As a pilot study, we recognize that we cannot offer definitive answers to those questions, but we can demonstrate that children can be carefully studied using naturalistic observations and that work/play samples can yield a measure of their competencies. Through the application of a coding system developed and applied during this two-year study, observational records can be quantified and patterns of interactions can be examined.

We found that physically handicapped children in mainstreamed settings do have more opportunities for interactions with peers and seem to become somewhat more (but not markedly) effective in the social context. In the specialized setting for this study, handicapped children were more frequently involved with teachers than with their peers. One must question whether this is due to the high ratio of staff to children in the specialized setting, or the inability of their peers (who were equally or more severely involved than those handicapped children observed in integrated settings) to respond appropriately to social overtures.

From this study it is also clear that while the attitudes of parents and staff can be more easily obtained from questionnaires, semi-structured interviews are the richest and perhaps most realistic source of attitudinal data. From the interviews it is evident that parents and staff feel that the early exposure of normal children to the handicapped will increase their acceptance of the handicapped later in life, i.e. it gives handicapped and normal children an opportunity to learn to deal with the "real world". This long-range effect cannot, at this time, be proven. The findings of Jones & Sisk (1967) and Asher-Weinberg (1975) indicate that children do not become aware of the presence of physical handicapping conditions until a mean age of four. If this is valid, then one can question if this early exposure will indeed have the anticipated impact.

We share the expressed concerns of parents of the handicapped children and the educational staffs of the centers as we studied whether the preschool settings as they now are organized, staffed and financed are ready to mainstream children with physical problems and at the same time, counsel those parents who need ongoing support.

In the area of social responsiveness, there appears to be less of a question as to the benefits of mainstreaming in that patterns of social interactions do appear to be learned behaviors (Argyle, 1976). According to

Charlesworth & Hartup (1967), these behaviors can best be learned in situations in which there are normal patterns of social interaction. Our findings do not, however, substantiate this. Yet what of the other domains of the child's life -- his need to develop cognitive abilities? Social behaviors are not independent of the other aspects of development. During the course of our study, normal children appeared to gain in their abilities to work more competently with materials within the preschool classrooms but the same was not found to be true for the mainstreamed handicapped child. However, handicapped children in the special setting did improve in the level of their functioning with materials.

One must seriously examine the benefits of mainstreaming for each individual child. Parents must be included in plans being projected for their children. In that way, their understanding of the child's educational needs is heightened. When we, as professionals, are included in the plans being projected by parents for their children, our understanding of the parent's feelings and their expressed need for assistance is extended.

From our previous intensive study of parent's involvement in their child's education program, it is evident that there is an interactional process between program and parents (Gordon et al., 1975). This finding warrants repetition. First, parent's involvement in a program should be both as recipients and sources of information and second, parents must be involved in solving their own problems if any lasting solutions are to occur.

Similarly, teachers need to be more involved in planning for the handicapped child. The teachers to whom we spoke were keenly aware of their inability to assess the specific needs of the handicapped child and even once assessed, to determine how they could most effectively work with the special needs of these children. It is clear that teachers need more support if they are to effectively mainstream physically handicapped children, both from their standpoint and, more importantly, for the benefit of the child. Staff as well as parents seemed unaware that physically handicapped children have more than a simple motor disability. Each of these children have a unique constellation of inter-related problems which must be delineated for the particular child in order to optimalize the learning experience. We believe that in addition to consultation, teachers can be trained to better assess children themselves by utilizing aspects of the observational and coding system developed for this study as well as the work/play sample.

The findings from this study must be considered only as indicators of areas for additional study. It is our opinion that research in its truest sense is most effective when findings that culminate from the study lead to more refined questions and delineate areas for in-depth concentrated examination. Investigations should raise questions, not only provide statistics and outcomes.

Reference Notes:

1. This structure emerged from a meeting at IRM in October, 1976 with Prof. Connolly of the Department of Psychology, University of Sheffield, England.

2. The specialized setting for handicapped children (SPEC) was used during both years of the study because of the inappropriate population in the IRM preschool program and the availability and proximity of the special setting.

3. This procedure for computing observer reliability was arrived at after discussion with Prof. P. R. Merrifield, School of Education, New York University.

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Appendix I

# OBSERVATIONAL AND CODING GUIDELINES

# FOR THE

# STUDY OF INTERACTIONS WITH INDIVIDUALS AND MATERIALS

# IN PRESCHOOL SETTINGS

## OBSERVATIONAL GUIDELINES

The source of data on the child's interactions with individuals and materials is a five-minute tape-recorded observation. Five to ten observational records should be used to compile a profile of the child's interactions. No more than one five-minute observation should be completed on any day, and the total observations should be spread out over a period of several weeks. The order, time, and activities with which the child is involved are therefore randomly sampled, yielding a more valid, non-biased profile of the child's typical performance.

### The Observational Record

The content of these five-minute tape-recorded narratives are precise descriptions of the child's ongoing activities. Each noun, verb, adverb, and adjective is carefully chosen to enrich the picture of behavior presented. The clearest possible description of the style and mood of the child being observed (including his/her name) contribute to a richer observation. Details of all the child's actions and reactions, sounds, language, facial expressions, bodily postures and gestures, contribute to a more precise picture of how the child presents himself to others. Not only is what the child does and says important, but how he/she does it. The source, or cause of a child's responses, should be noted. Is the child responding to the request of another child, complying with a directive of the teacher, or spontaneously reacting to a distracting event such as a sudden loud noise?

The extent of initiative and depth of involvement shown by a child with either people or materials should be indicated descriptively. The observer should describe the effort the child puts into initiating or sustaining an interaction, what transpires during the interaction and how, or if the interaction is terminated.

This sequence is evident in the following excerpt from an observation on David: "David smiles and asks Sammy timidly if he will play soldiers with him. Sammy looks disgustedly at David and walks away with the soldiers. David stands there watching Sammy with a very disappointed expression."

Specific details should also be included when describing interactions with materials. Are materials being used as they were designed to be used? Are they being used imaginatively, creatively? Is the child's involvement minimal? Is the child doing something that leads up to appropriate use of a material, i.e. preparing materials for use or exploring their properties and functions? The sounds or words that accompany the child's work with materials should also be included since this gives a clue to the use the child has determined for the material. For example: "Tony has turned the rocking boat over and is huffing and puffing as he climbs up, saying, 'Oh, I'm so

tired from climbing up this tall mountain!'" Or, "Eileen again idly taps a piece of the puzzle on the table, ignoring the rest, while gazing around without focus."

The continuity and sequencing of behavior is important even when it is not immediately apparent what the child intends to do, such as crawling or wandering around the room or making a sudden change in an activity (e.g. a child may pick up a truck and appear on the verge of rolling it across the floor, then suddenly approach a group activity). These descriptions give an indication of how much follow-through a child has in activities. The sequences of interactions may be consecutive, as for example, "Christina puts the roof on the doll house, then begins painting at the nearby easel," or they may be simultaneous, with more than one involvement taking place at the same time, e.g. "Erik is talking to Sasha while looking over his shoulder at Maia (teacher), who's fixing snack." Sequences can be clarified by use of words like: "then", "next", "while", "as", "at the same time as".

Even if the child seems uninvolved, this too is noted since the proportion of the number of units in each category to the total number of units forms the data base for analysis. If the child continues any behavior (even if he/she were uninvolved or idle), the observer repeats the description at ten-second intervals, thus adding an additional unit.

Certain activities which are not generally conducive to social interactions or work with materials should be avoided, unless the child begins such activity in the middle of an observation, e.g. clean-up, rest, mealtime, lining up, etc. These activities might be included, however, whenever there is a clear social or educational component, e.g. snack-time where children are excitedly eating Chinese noodles with chopsticks and discussing what kind of utensils they eat with at home.

## Procedures for Observing

Preparation for Observation. On each day of observation the observer fills out a schedule of observation (Item 1) which includes information as to the make-up of the classroom on any given day, i.e. number of teachers, boys, girls, and noting any unusual events. When observing in an integrated setting the observer first determines whether the handicapped child is present and in the classroom on that day. Observations should not be made if the handicapped child is absent or when the handicapped child leaves the room. The order in which children are listed on the Observation Schedule is the order in which they are to be observed. It is important to note, when observing, if this is not possible, and the reason why (child absent, leaves the classrom, etc.).

Item 1
Observation Schedule

LOCATION: _____ OBSERVER: _____

DATE: _____ # TEACHERS _____
# BOYS _____
# GIRLS _____

OBSERVATION SCHEDULE

| | CHILD | TIME FROM | TIME TO | ACTIVITY CATEGORY | TEACHER'S ROLE | OTHER CHILDREN | COMMENTS |
|---|---|---|---|---|---|---|---|
| 1. | | | | | | | |
| 2. | | | | | | | |
| 3. | | | | | | | |
| 4. | | | | | | | |
| 5. | | | | | | | |
| 6. | | | | | | | |
| 7. | | | | | | | |
| 8. | | | | | | | |
| 9. | | | | | | | |
| 10. | | | | | | | |

After randomization for the first visit in each data collection period, the ordering for each succeeding visit is planned so as to vary the sequence in which children are observed. Thus, no child is observed within the same sequence of observations, or during the same activity period, e.g. if a child is to be the fourth to be observed on one day and the sixth to be observed on another day, then the next time the child should be slotted for any position other than four or six. To eliminate observer bias, the observations should be collected by a minimum of two observers.

Observing an Individual Child. Prior to starting the stopwatch to time the observation, the observer dictates her name, the name of the child, school, date of observation and order of observation and introductory sentence describing the child's involvement at that moment. The observer then begins the detailed five-minute record of the child's activities. The child may be observed while involved in any of the following activities:

1. Structured materials -- puzzles, lotto, peg boards, table games, etc.
2. Unstructured materials -- woodworking, sand, water and natural "life" (plants, rocks, small animals, etc.)
3. Art work -- painting, clay, collage, drawing, etc.
4. Dramatic play -- puppets, housekeeping, dress-up.
5. Block play (note whether table blocks or block corner)
6. "Reading" books
7. Musical activities
8. Group discussion (including story being read to class)
9. Playground or gym activities.

It is necessary to move about the classroom with the child being observed in order to pick up details of gesture, language, and fine motor activity while remaining as unobtrusive as possible. If the child or other children make overtures (in all schools, children eventually do show curiosity toward the observer and her activities), the observer even if observing at that moment, should smile and nod in acknowledgement and then gently but firmly guide him back to an activity in the room. If the observer is not momentarily recording and if children are persistent in their interest, then the observer should give a brief explanation and demonstration of the tape recorder. In this way, children accept the observer's presence casually, as a person who comes to record stories about their classroom.

After completing each observation, the observer fills out the remainder of the Observation Schedule (Item 1) for that child, noting time of observation, the activity in which observed (from among the nine listed above), role of teacher (observing, supporting, directing, supervising, etc.) and a list of other children involved.

Preparing the Observation for Coding. Each five-minute tape-recorded observation is transcribed. These transcriptions are then corrected and the language clarified in order to create an accurate and coherent record of the child's behavior. This process is essential since the on-going activities in the classroom produce background noise which interferes with both recording and transcription.

## CODING GUIDELINES

### Coding the Observational Record

Each observation is divided into interactional units prior to coding A unit represents a discrete interaction with an individual or a material. If two behaviors occurred simultaneously as noted by, while, as, at the same he/she is also ...., they are noted as sub-units of a larger unit by the designation of a, b, c, (sample coded observation, p. 98 ).
At times the discrete behavior is actually the absence of action, e.g. Charles is sitting there, staring off into space. This type of random behavior is numbered and counted as a unit in determining the total proportion of behaviors in any given category. These units, as well as units not focusing on interactions with materials or social interactions are noted as Not Relevant to the Study (NRS ). That is, when the child is engaged in either snack or lunch, and when this is not also an opportunity for social interaction, the unit is numbered and identified as NRS, for the purpose of the study of mainstreaming.

Utilizing the definitions contained in the coding manual, each unit, including each simultaneous u[illegible], is then coded along each of the four dimensions of:

1. SOURCE: The impetus for the child's action.
2. DIRECTION: The person to whom, or object to which, the behavior is directed.
3. MODE: The modality in which the child's interaction occurs.
4. QUALITY: The intensity and type of involvement in the interaction.

Each of these four dimensions is comprised of several categories which take into account the wide range of behaviors relating to social interaction and the child's work with materials.

The coder notes the appropriate category on level of behavior on a coding sheet. A sample observation, divided into units, coded, and a coding sheet, are found on pp. 98-104.

Item 2

Sample Observation: Handicapped Child in Mainstreamed Setting

School A
Observer: HW
Child: Joseph

Observation #4
5/2/78

Joseph is in the dramatic play area. He's been playing with Pat. Gerard and Keith are nearby. Joseph is now climbing into a cradle, saying, "That one. That one", pointing to a blanket Pat should put on him. She picks up the blanket he has pointed to. Pat puts the blanket over him; he's laughing. She's rocking him back and forth and they're still laughing. He's rocking himself in the bed just a little more vigorously now. Sue (the teacher) says, "Be careful, Joseph." He sits up and smiles brightly at her when she says this. He picks up a toy telephone and with a smile on his face pretends to talk to Pat, saying something ending in "Alright". Pat's smiling back at him; she seems to be very involved in dramatic play with him. Pat gets into a baby carriage, Joseph grabs the carriage Pat's in and says, in a dramatic-play tone, as if he's her daddy, "Come back! Come back!" Pat's laughing at him, looking mischievously, as if she's sneaking away. He gets up and walks to the toy stove, where he picks up a toy vegetable from the top of the stove and pretends to be eating it. Pat now gets into the cradle that Joseph was in before. Joseph is sitting on a chair, smiling at her; she's smiling back. Sue says, in an annoyed tone of voice, "Joseph, be careful, O.K.?!" Joseph just looks at her intently and seriously, as if he's wondering why she's telling him that when he's not getting into any mischief or doing anything dangerous. He sits down in the doll carriage. Now Pat walks over and is rolling him in the carriage gently and he reaches over and takes Pat's hand softly,

laughing while holding hands. He kisses Pat's hand as if playing "baby" and "mommie"; Pat's smiling at him approvingly, very aware of Joseph. Gerard is wheeling Joseph as you would a baby, so Joseph reaches up and in a baby voice says, "Get off! Get off!", pushing Gerard's hand off gently. Gerard lets him push it off. Pat reaches over now and is trying to take Joseph's blanket away. Joseph is putting up a valiant effort to keep the blanket, but is not doing too well. So just before Pat gets it from him, he grabs (but only playfully) the doll that Pat had. They are now laughing heartily with each other. They are now pretending to be babies asleep, their heads together, resting on their hands, eyes closed. Now Joseph is spreading out a small blanket over himself. He pushes the baby doll out of the way there. He now gives the doll to Pat, making baby noises. Pat gives it back to him, saying, "Here, dear." He accepts it from her. He's smiling; they are both smiling and laughing at each other. He smiles broadly at the observer. The observer smiles back briefly, so as not to distract Joseph from his play. He sits down at a table, looking expectantly, as if waiting for Pat to play with him again. Pat doesn't see him, as she's fixing the doll and blanket. Pat walks over and says, "I'm not a baby." Joseph says something indistinguishable to her. She takes a piece of toy fruit out of the refrigerator. She pushes it toward Joseph's mouth as if feeding her child, saying, "You're hungry!" He says something about "hungry", laughing. Pat moves away for a moment. Joseph takes a "bite" of the fruit, pretends to break off a piece, and puts it on the table. She's taking out a container, reaching over to "feed" him, saying, "Here's a spoonful." Joseph reaches over and takes the spoon from her, "feeding" himself before she has a chance to "feed" him. He's still laughing, looking at Pat while Pat's feeding Gerard. She's about to "feed" Joseph some more food. He takes the spoon from her first and "feeds" himself with it. He's pretending to eat the cucumber which he picks up from the table, and she brings him more

"food", saying, "Here, here's some lovely roaches!" Joseph's laughing while pretending to eat the "roaches" Pat's feeding him. She's giving him more, saying, "Roach-y food is good!", laughing uproariously at it. Joseph's laughing, eyes bright, and he's sparkling while "eating" the "roaches". He's laughing, watching the two girls, while Pat's giving some food to Laura. He's now feeding Pat the cucumber, but she's laughing and pulling away because she doesn't want it. She's saying, "Here! Here's more roaches for you, Hon!", pretending to pour it all over his hair; she's laughing. Now he's pretending to wipe the "roaches" out his hair. He's still laughing, watching the two girls, while Pat is giving some "Roach-y food" to Kathy. Pat and Kathy don't see him looking, though. He takes a spoon from her container on the refrigerator and feeds Pat, saying, "Here. Here's your roach-y cake! Here's your roach-y cake!", offering it first to Pat, who is laughing, enjoying it, and then to Gerard, who's laughing and then back to Pat, who laughs. They are both laughing uproariously.

End of observation.

Item 3

Sample Observation broken into Interactional Units -- a handicapped child in a mainstreamed setting

School A
Observer: HW
Child: Joseph

Observation #4
5/1/78

Joseph is in the dramatic play area. He's been playing with Pat. Gerard and Keith are nearby. (1A Joseph is now climbing into a cradle, saying, B "That one. That one", pointing to a blanket Pat should put on him. She picks up the blanket he has pointed to.) (2 Pat puts the blanket over him; he's laughing.) (3 She's rocking him back and forth and they're still laughing.) (4 He's rocking himself in the bed just a little more vigorously now.) (5 Sue (the teacher) says, "Be careful, Joseph." He sits up and smiles brightly at her when she says this.) (6A He picks up a toy telephone and with a smile on his face pretends to talk to Pat, saying something ending in "Alright". Pat's smiling back at him; she seems to be very involved in dramatic play with him.) Pat gets into a baby carriage. (7 Joseph grabs the carriage Pat's in and says, in a dramatic-play tone, as if he's her daddy, "Come back! Come back!" Pat's laughing at him, looking mischievously, as if she's sneaking away.) (8 He gets up and walks to the toy stove, where he picks up a toy vegetable from the top of the stove and pretends to be eating it.) Pat now gets into the cradle that Joseph was in before. (9 Joseph is sitting on a chair, smiling at her; she's smiling back.) (10 Sue says, in an annoyed tone of voice, "Joseph, be careful, O.K.?!" Joseph just looks at her intently and seriously, as if he's wondering why she's telling him that when he's not getting into any mischief or doing anything dangerous.) (11 He sits down in the doll carriage.) (12 Now Pat walks over and is rolling him in the carriage gently and he reaches over and takes Pat's hand softly,

laughing while holding hands. (13 He kisses Pat's hand as if playing "baby" and "mommie"; Pat's smiling at him approvingly, very aware of Joseph. (14 Gerard is wheeling Joseph as you would a baby, so Joseph reaches up and in a baby voice says, "Get off! Get off!", pushing Gerard's hand off gently. Gerard lets him push it off.) (15 Pat reaches over now and is trying to take Joseph's blanket away. Joseph is putting up a valiant effort to keep the blanket, but is not doing too well.) (So just before Pat gets it from him, (16 he grabs (but only playfully) the doll that Pat had. (17 They are now laughing heartily with each other. (They are now pretending to be babies asleep, their heads together, (18 resting on their hands, eyes closed.) (19 Now Joseph is spreading out a small blanket over himself. (20 He pushes the baby doll out of the way there. (21 He now gives the doll to Pat, making baby noises. Pat gives it back to him, saying, "Here, dear." He accepts it from her. (He's smiling; they are both smiling and laughing (22 at each other. (23 He smiles broadly at the observer. The observer smiles back briefly, so as not to distract Joseph from his play. (24 He sits down at a table, looking expectantly, as if waiting for Pat to play with him again. Pat doesn't see him, as she's fixing the doll and blanket. (25 Pat walks over and says, "I'm not a baby." Joseph says something indistinguishable to her.) She takes a piece of toy fruit out of the refrigerator. (She pushes it toward Joseph's mouth as if (26 feeding her child, saying, "You're hungry!" He says something about "hungry", laughing.) Pat moves away for a moment. (Joseph (27 takes a "bite" of the fruit, pretends to break off a piece, and puts it on the table.) She's taking out a container, reaching over to "feed" him, saying, "Here's a spoonful." (Joseph reaches over (28 A-B and takes the spoon from her, "feeding" himself before she has a chance to "feed" him. (29 He's still laughing, looking at Pat while Pat's feeding Gerard. (30 A She's about to "feed" Joseph some more food. He takes the spoon from her first and "feeds" (B himself with it. (31 He's pretending to eat the cucumber which he picks up from the table,) and she brings him more

"food", saying, "Here, here's some lovely roaches!" (Joseph's laughing while 32
pretending to eat the "roaches" Pat's feeding him.)(She's giving him more,
saying, "Roach-y food is good!", laughing uproariously at it. Joseph's laughing,
eyes bright, and he's sparkling while "eating" the "roaches". 33 )(He's laughing,
watching the two girls, while Pat's giving some food to Laura. 34 )(He's now feeding
Pat the cucumber, but she's laughing and pulling away because she doesn't want it. 35 A-B )
( She's saying, "Here! Here's more roaches for you, Hon!", pretending to pour it
all over his hair; she's laughing. Now he's pretending to wipe the "roaches" 36
off his hair. 37 )(He's still laughing, watching the two girls, while Pat is giving some
"Roach-y food" to Kathy. Pat and Kathy don't see him looking, though. )(He takes
a spoon from her container on the refrigerator and feeds Pat, 38 A-B saying, "Here. Here's
your roach-y cake! Here's your roach-y cake!", offering it first to Pat, who
is laughing, enjoying it,)(and then to Gerard, who's laughing 39 A-B )(and then back to 40 A-B
Pat, who laughs.)( They are both laughing uproariously. 41 )
End of observation.

Item 4

CODING FORM

CHILD_____ DATE_____ OBSERVER_____ CODER_____ DATE_____
CENTER_____

| UNIT # | I. SOURCE | II. DIRECTION | III. MODE(S) | IV QUALITY | | | |
|---|---|---|---|---|---|---|---|
| | | | | Social | | Materials | |
| | | | | Intensity | Recip. | Intensity | Use |
| | | | | | | | |
| | | | | | | | |
| | | | | | | |

Item 5

CODING FORM

CHILD Joseph DATE 5/1/78 OBSERVER HW CODER HW DATE 6/8/78
CENTER School A

| UNIT # | I. SOURCE | II. DIRECTION | III. MODE(S) | IV QUALITY Social Intensity | Social Recip. | Materials Intensity | Materials Use |
|---|---|---|---|---|---|---|---|
| 1. | A self-gen. | material | motoric | | | 3 | 3 |
| | B self-gen. | child | verbal/gestural | 3 | 3 | | |
| 2. | ongoing | child | affect | 4 | 4 | | |
| 3. | ongoing | child | affect | 4 | 4 | | |
| 4. | ongoing | material | motoric | | | 4 | 4 |
| 5. | reactive | teacher | facial exp. | 3 | 3 | | |
| 6. | A sg | material | verbal | | | 4 | 4 |
| | B return | child | facial exp./verbal | 4 | 4 | | |
| 7. | ongoing | child | verbal | 5 | 5 | | |
| 8. | sg | material | gestural | | | 4 | 4 |
| 9. | return | child | facial exp. | 3 | 3 | | |
| 10. | elicited | teacher | facial exp. | 3 | 3 | | |
| 11. | return | material | motoric | | | 3 | 3 |
| 12. | return | child | gestural/affect | 4 | 4 | | |
| 13. | ongoing | child | gestural | 5 | 5 | | |
| 14. | reactive | child | gestural/verbal | 5 | 3 | | |
| 15. | return | child | gestural | 4 | 4 | | |
| 16. | ongoing | child | gestural | 4 | 4 | | |
| 17. | ongoing | child | affect | 5 | 5 | | |
| 18. | ongoing | child | gestural | 5 | 5 | | |
| 19. | return | material | motoric | | | 4 | 4 |
| 20. | ongoing | material | motoric | | | 2 | 2 |
| 21. | ongoing | child | gestural/play noise | 5 | 5 | | |
| 22. | ongoing | child | facial exp./affect | 5 | 5 | | |

Item 5

CODING FORM

CHILD Joseph (p.2) DATE 5/1/78 OBSERVER HW CODER HW DATE 6/8/78
CENTER School A

| UNIT # | I. SOURCE | II. DIRECTION | III. MODE(S) | IV QUALITY Social Intensity | Social Recip. | Materials Intensity | Materials Use |
|---|---|---|---|---|---|---|---|
| 23. | sg | observer | facial exp. | 3 | 2 | | |
| 24. | return | child | visual | 3 | NA | | |
| 25. | ongoing | child | verbal | 3 | 3 | | |
| 26. | ongoing | child | verbal/affect | 4 | 4 | | |
| 27. | ongoing | material | gestural | | | 4 | 4 |
| 28. A | ref./elic. | child | gestural | 4 | 4 | | |
| B | ongoing | material | gestural | | | 4 | 4 |
| 29. | ongoing | child | affect | 4 | NA | | |
| 30 A | ongoing | child | gestural | 5 | 5 | | |
| B | ongoing | material | gestural | | | 4 | 4 |
| 31. | ongoing | material | gestural | | | 4 | 4 |
| 32 | ongoing | child | affect/gestural | 5 | 5 | | |
| 33. | ongoing | child | affect/gestural | 5 | 5 | | |
| 34 | ongoing | group | affect | 4 | NA | | |
| 35. A | ongoing | child | gestural | 5 | 5 | | |
| B | ongoing | material | gestural | | | 4 | 4 |
| 36. | ongoing | child | gestural | 5 | 5 | | |
| 37. | ongoing | group | affect | 4 | NA | | |
| 38. A | ongoing | material | motoric | | | 4 | 4 |
| B | ongoing | child | verbal/gestural | 5 | 5 | | |
| 39. A | ongoing | material | motoric | | | 4 | 4 |
| B | return | child | gestural | 5 | 5 | | |

Item 5

CODING FORM

CHILD Joseph (P3) DATE 5/1/78 OBSERVER HW CODER HW DATE 6/8/78
CENTER School A

| UNIT # | I. SOURCE | II. DIRECTION | III. MODE(S) | IV QUALITY | | | |
|---|---|---|---|---|---|---|---|
| | | | | Social | | Materials | |
| | | | | Intensity | Recip. | Intensity | Use |
| 40 | A ongoing | material | motoric | | | 4 | 4 |
| | B return | child | gestural | 5 | 5 | | |
| 41 | ongoing | child | affect | 5 | 5 | | |

Appendix I

# CODING MANUAL

for the Study of

Interactions with Individuals and Materials

in

Preschool Settings

DIMENSION

I. SOURCE: The impetus for the child's actions

| CATEGORY | DEFINITION | EXAMPLES | COMMENTS |
|---|---|---|---|
| Self-Generated | The child's actions appear to be self-motivated. This applies to the initiation of a task or activity but not to the child's use of each additional component of the task. When additional materials significantly change the nature of the task or add another dimension to the task, then the interaction is again coded as self-generated. For example, if in adding cups to sand play the child changes his use from simple scooping and pouring to dramatic play, the use of the cups with the sand is again coded as self-generated. | Ronnie (child being observed) is sitting at a table tracing his name onto a piece of paper. He looks over to Karen and asks her a question. | When this is the first interaction with Karen, it is coded as self-generated. |
| | | Alice is seated at a table with collage material making a collage. She puts a stick into glue and places some glue on the paper. | This is coded as self-generated the first time it occurs in an observation. All succeeding steps in the making of the collage, picking up paper, placing it on the paper, pressing it down, etc. are coded as ongoing or returning since they are continuations of a single process. |
| | | Janet is scooping and pouring sand into a milk bottle. She now picks up the milk bottle and begins to pretend to feed the doll some milk. | Since the nature of the activity has changed from scooping and pouring sand to dramatic play, the interaction would be coded as self-generated. |

| CATEGORY | DEFINITION | EXAMPLES | COMMENTS |
|---|---|---|---|
| Ongoing | The child continues an activity, task or interaction without any change in focus and without interruption. When applied to materials, this includes all objects which may be considered components of a given task, e.g., all the materials needed for collage are considered to be the components of the task. When applied to a group it includes interactions with any members of that group. | Carlo and David have been working together in the block area. Carlo looks at David as he gets up and walks away. | The social interaction with David is coded as ongoing since it follows another unit in which David and Carlo have been interacting socially. |
| | | Richie is participating in music with the class. They are all in a line watching the teacher as they sing and imitate the motions of the song. Richie is trying to imitate the motion by putting his hands together. He is still trying to imitate the gestures of the song, but has difficulty following along with the group because of his motor problems. | Since Richie is still trying to follow along with the group activity, this is coded as an ongoing interaction with the teacher and the group. |
| | | Alice has been playing house with a group of children. Most of the children leave the area except for Marsha who is pretending to be the baby. Alice is pretending to rock Marsha in a cradle to put her to sleep. | The previous unit is directed to a group of children. Marsha has been a part of this group, therefore, the interaction with Marsha is a continuation of the previous unit and is coded as ongoing. |
| Returning | The child resumes an interaction which has been briefly interruped without disrupting the continuity (type of involvement) or changing the direction of the initial interaction. | Sam and Timmy are shoveling sand and talking together. The teacher comes and asks Timmy a question. He answers the teacher's question. Timmy then picks up his shovel and scoops more sand into Sam's pail. | Timmy has returned to the same activity that he had been involved with before the teacher spoke to him. The interactions with Sam and the sand would both be coded as returning. |

| CATEGORY | DEFINITION | EXAMPLES | COMMENTS |
|---|---|---|---|
| Returning (continued) | | Adam is making heavy strokes on his paper with a crayon. He looks over to where Millie is coloring then looks up to Carlos. (a) He adds colors to his paper now , (b) as he says to the teacher, "I made a pumpkin here." | The child is going back to an activity which he had previously been engaged in at the same level. Only the (a) portion of this simultaneous interaction is coded as returning. |
| | | Philip smiles at Peter. Peter does not smile back because he does not see him. Philip begins to spread jelly onto his cracker. He looks over to Mark. He then looks back over to Peter and smiles. Peter smiles back. | This unit is coded as returning since Philip had previously attempted an interaction with Peter. |
| Reactive | There is evidence that the child is reacting to or responding to a specific event, individual or object in the environment which has distracted the child. This includes: awareness of visitors to classrooms if their presence has created a disruption; turning toward a disagreement or argument; noticing individuals walking or running by; responding to an exclamation made by another child; responding to provocation by another. | Evan has been working on his own block building. He is carefully lining up the blocks. Evan turns around to see what has happened when Noah says "Look what happened over here." | Noah's statement has caused Evan to turn around. |
| | | William is seated at a table with Carol, Raymond, Karen and Denise copying his last name. He looks over to Denise who is printing her last name. Still holding his pencil, he looks over his shoulder as the children at the next table call out the teacher's name. | William is clearly responding to the fact that the teacher's name has been called out which has distracted him from his work. |
| | | Melinda is seated near the teacher singing the "Wheels on the Bus" along with the class. She looks to the door where a group of visitors are talking. | The presence of the visitors has momentarily distracted Melinda from her involvement with the teacher and the group of children singing. |

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| CATEGORY | DEFINITION | EXAMPLES | COMMENTS |
|---|---|---|---|
| Elicited | The child either verbally or non-verbally responds to an explicit or implicit request or a comment made by another. If a child's attention is redirected to a task by a teacher, the ensuing behavior is coded as elicited. | Mark has taken a puzzle from the shelf. The teacher says "Mark, take the puzzle and sit down with it at the table." He puts the puzzle on the table. | Mark has placed the puzzle on the table because the teacher has directed him to do so. This is coded as a behavior directed toward the material. Since he is responding to a teacher's request it is also coded as simultaneously directed to and elicited by the teacher. |
| | | Dinah is seated near the teacher with a group of children. They're doing a lesson identifying letters and shapes. Dinah looks to Anthony as the teacher calls his name and asks him to go to the board and circle four apples. | Dinah's attention has been directed to Anthony by the teacher's request. In this case, it is implied that Dinah should look at Anthony who now is going to show them the correct answer. |
| | | Andre is in the playroom with the entire class. The teacher gestures for him to come over to the center of the room. He looks at her as he begins to move forward. | Andre is moving because the teacher has asked him to do so. |

II. DIRECTION: The subject of an interaction. The person to whom, or material, or equipment to which the child's behavior is directed. Each unit, or component of a simultaneous, unit may only be coded for one direction. In most cases, if a given unit appears to have two directions then the unit is divided into two or more simultaneous components (a,b,c, etc.). However, if a behavior is directed to a group consisting of a child and teacher, child and other adult, child and observer, or child and handicapped child, both directions are noted, e.g., child/teacher or child/handicapped child. In all other cases only one of the following categories may be used:

A. Materials and Equipment

| CATEGORY | DEFINITION | EXAMPLES | COMMENTS |
|---|---|---|---|
| Educational Materials | Behaviors directed to or involving use, manipulation, exploration or awareness of material, task or activity where the major focus is upon the acquisition of cognitive concepts. This encompasses conventional educational materials (e.g., puzzles, peg boards, blocks, table toys), dramatic play materials (e.g., puppets, dress-up clothes, housekeeping props, block building accessories); free-flowing materials (e.g., sand table and related equipment, water table and related equipment, science activities, reading or math tasks.) | The teacher asked Billy to remove the felt letter "B" from the board and place it on the paper. Billy carefully examines the board and points to the letter "B". | Pointing to the letter involves an interaction with an educational material. Note: Since this behavior has been elicited by the teacher to the material it becomes a simultaneous unit with behaviors elicited to the material and to the teacher. |
| | | The teacher has asked Carol to go through the box of keys and find out which locks they fit. Carol walks over to a nearby door and tries one of the keys, but it doesn't fit. | The keys are an educational material since the teacher has formulated an educational task. This behavior has been elicited by the teacher, therefore, it also represents a simultaneous interaction with the teacher. |
| | | Carmella is seated in the reading area with Rodney. (a) She looks at the picture of insects (b) that he is pointing to (a) in the magazine. | The magazine is an educational material since the teacher has included it in the reading area for the purpose of stimulating discussion. This is another simultaneous unit with (a) directed toward the material and (b) to the child. |

| CATEGORY | DEFINITION | EXAMPLES | COMMENTS |
|---|---|---|---|
| Educational Equipment | Activities in which the primary focus is utilization of equipment for the development of motor skills (e.g., bicycles, slides, swings, balls, climbing apparatus) and other materials related to educational tasks which may not specifically include a specific cognitive component (e.g., thumb tacks). | Katie climbs up on the climbing structure and begins to walk across the balance beam. | The climbing structure is being used for gross motor skills. |
| | | Frances is helping the teacher put up a bulletin board display about where animals live. The teacher hands Frances some thumb tacks and asks her to put them in. Frances climbs up on the chair and pushes one in with a grimace on her face as she tries to get it into the hard board. | The use of the thumb tack is considered educational equipment since it is related to an educational task. (If the child had picked it up off the floor while walking across the room, it would not be considered educational equipment and would be coded as NRS (not relevant to study.) |
| | | The entire group is up on the roof top play yard. Keith picks up an old rubber tire and tries to roll it across the roof. | The tire is considered educational equipment since it is being used to develop the child's coordination skills. |

B. Children

| CATEGORY | DEFINITION | EXAMPLES | COMMENTS |
|---|---|---|---|
| Child | Behaviors directed to one child. | Sam is working on the building with Tony, handing him the blocks. | A component of this unit is directed to a child; it represents joint or cooperative play. |
| | | She looks over to Daniel who has begun to cry behind her. | The behavior is a reaction to another child. |
| | | The teacher calls on Michael to get up and point to the picture of two cats. Kenneth looks to Michael. | Although the behavior has been Elicited from the teacher it is Directed to a Child. |
| Handicapped Child | The same definitions as above apply except that the child to whom the behavior is directed is classified as handicapped. | | |
| Group | Child's behavior is directed toward two or more children. This category is also applied when the child is a member of a group discussion, music or story time and is responding or reacting to the group as a whole. | Eddie moves over to where Ronnie, John and Tony are setting up a roadway and watches them for a moment. | The child is focusing upon three children. |
| | | Gary and Norman run past him excitedly. Jack runs after them and joins their group. | Jack is joining the children, therefore, his behavior is directed to a group. |
| | | Richie is sitting in the middle of a group of children who are singing a song which requires finger movements. He looks up to the teacher imitating the hand motions as he sings along with the words of the song. | Richie is a member of a group activity. His singing is, therefore, directed to the group. The teacher is also part of this group. The direction is noted as Teacher/Group. |

C. Adults

| CATEGORY | DEFINITION | EXAMPLES | COMMENTS |
|---|---|---|---|
| Teacher | All behaviors directed toward a teacher, student teacher, group of teachers, or other individual acting in a teaching capacity (at times parents or therapist will assume teacher responsibilities). | He looks up to the teacher as she puts some glue in the container. | |
| | | Robert is watching the hand motions that the teacher is demonstrating to the group. | Following the teacher's instructions either explicitly, as here, or implicitly, is coded as behavior directed to the teacher. |
| | | She goes to the cabinet and gets the box that the teacher had asked her for. | In this case the behavior indicates that the child is complying with the teacher's instructions; the interaction with the teacher is implied. |
| Observer | All behavior directed toward individual(s) observing the child. | She looks up at me (the observer) and we make eye contact, as I continue to talk into the tape recorder. | |
| Other Adult | All behaviors directed to visitors, staff members, parents who are not direct participants in the classroom routines and activities. | Ellen watches as Stephen's mother picks up his little sister. | A mother of a child who is not working in the room is coded as other adult. |
| | | He looks up to see who the teacher is speaking to. He recognizes the local policeman and comes running up to him. | The child is reacting to the conversation of the teacher and responds by moving toward the adult who is visiting. |

III. MODES: The modality within which the child interacts. Only the predominant mode(s) should be coded, with a maximum of two modes used to identify a given interaction.

| CATEGORY | DEFINITION | EXAMPLES | COMMENTS |
|---|---|---|---|
| Vocalizations: | | | |
| Verbal | Child talks to another individual or talks to self while working with materials. This includes approximations of words or babbling, for the young child. | As Kim pushes the last piece of the puzzle in she says, "Good job." | Kim is using two modes, verbal and motoric, while working on the material. |
| | | Richie calls out to the teacher, "Denise, are these for me?" | Richie is asking a question of the teacher. |
| | | A little girl to Tony's right asks him a question about the boat he is playing with. Tony answers with an extended reply. | Although the specific question is not mentioned, it was clear to the observer that there had been verbalization between Tony and the next child. |
| Play Noise/ Singing | Child uses sounds, noises or singing to accompany play or when interacting with others. (If the unit being considered does not reflect an interaction with another individual or with a material, i.e. if it is coded NRS, then the child's singing or other sounds are not coded.) | As Michael pushes the car along the floor he makes a sound like a car motor. | The sound accompanying his play with the car is coded as play noise. |
| | | Andy is singing half-heartedly along with the song which the teachers have begun, "It's clean up time". | Andy's mode of interaction, or participating in the group situation, is singing. |
| | | Ralph is making whooshing sounds along with Richy as they move their bodies back and forth while seated in the rocking boat. | The predominant mode in this interaction with Richy is the play noise, whooshing sound, that they are both making. |
| | | Martin is sitting in a chair by himself and singing to himself, "Someone's Working on the Railroad." | Since neither materials or other individuals are involved, the unit is coded as NRS. |

| CATEGORY | DEFINITION | EXAMPLES | COMMENTS |
|---|---|---|---|
| Affect | The child vocalizes feelings as indicated by laughing, crying, whining, shrieking, etc. | The child sitting to the left of Carolyn is roughing up her hair. She turns to him and begins crying. | Carolyn's mode of interacting is an affective response. |
| | | Patricia looks at the picture of the pumpkin the teacher is holding up. Patricia says, "Pumpkin, bumpkin", to herself and begins laughing out loud. | Patricia is responding to the situation with two modes, verbal and affect. |
| | | Tommy is going around the jungle gym on a bicycle and the wheel gets caught. He begins to whine as he looks up to the teacher for help. | Tommy is using the affective mode to communicate to the teacher his need for assistance. |

| CATEGORY | DEFINITION | EXAMPLES | COMMENTS |
|---|---|---|---|
| Non-Verbal: | | | |
| Gestural | The child uses distinct gestures to communicate thoughts, needs or plans to others. | Sarah extends her finished painting to the teacher. | The child is nonverbally asking the teacher, "Look at what I did." Extending her arm is therefore coded as gestural rather than motoric and would be coded as directed to the teacher rather than to the materials. |
| | | Louis looks up as the physical therapist walks in with another child. The therapist calls his name and he looks at her and waves "Hi". | Louis is using his wave to say "Hello, I see you are here." |
| Facial Expressions | The child uses facial expressions to communicate thoughts or affective reactions. | After working for quite some time on a puzzle, Jill has a big grin on her face as she finally inserts the last piece. | The grin or smile is coded as a facial expression directed to the material. The process of inserting the piece would be coded as the motoric mode and would also be directed to the material. |
| | | The teacher asked Marilyn what color crayon she is using. Marilyn looks up to the teacher with a puzzled look on her face. | The teacher has elicited the interaction. The child responds with two modes: facial expression and visual or looking at the teacher. |

| CATEGORY | DEFINITION | EXAMPLES | COMMENTS |
|---|---|---|---|
| Visual | All behaviors which clearly specify that looking is the predominant channel used in the interactions. | Carl is working at the sand table scooping sand into the funnel. Carl now watches as the sand flows into the bottle as he continues to scoop. | Although the child is visually aware of what is happening as he scoops, i.e. visual-motor coordination is necessary, visual is only coded when he actually focuses on the sand, i.e. "watches". |
| | | Joseph is at a table with several other children working with some puzzles. As he picks up the next piece he looks over his shoulder to the group of children working at the next table. | This is a simultaneous unit in which one component involves picking up a piece of a puzzle and the second component indicates that the child has decided to look at a group of children. Looking at the group is coded as an interaction using the visual mode even though the group does not respond. |
| | | Lorraine is working with blocks. She looks up at me as I am observing and we make eye contact. | In this interaction the visual mode has been used to establish some communication between the subject and the observer. |
| Motoric | The use of gross motor actions to initiate or maintain an interaction. | Carmella pulls herself across the floor to Nancy and says hello. | The child is initiating an interaction by going to another child and saying something. |
| | | She examines the puzzle pieces scattered on the floor. Then she picks out a piece of the clown's face and carefully rotates it as she inserts it appropriately. | Although the completion of puzzles necessitates visual-motor skills, it is the motoric rotation and careful insertion which is coded in this unit. |

| CATEGORY | DEFINITION | EXAMPLES | COMMENTS |
|---|---|---|---|
| Motoric (continued) | | Jennifer and Linda have been playing with a tire on the roof top playground. Jennifer is helping Linda to push a large heavy tire across the playground by rolling it on its edge, pushing it hand over hand. | This is a simultaneous unit involving an interaction with a child. For the first component the mode is motoric in that the children are moving together. The second component of this interaction involves an interaction with a piece of equipment in which motor skills are being used to push the tire. |
| Sensory/Tactile (tasting, feeling, touching) | Interactions in which the predominant means of interaction is the exploration of the sensory qualities of an object or an individual. | The teacher is involved with a lesson on things that grow under the ground, but Phyllis doesn't appear to pay any attention as she looks at Sarah and runs her fingers through Sarah's hair. Sarah turns to her and smiles. | In this interaction the predominant mode is sensory since Phyllis interacts by feeling another child's hair. |
| | | Sammy is putting his hands into the bucket of crayons on the shelf and is feeling them very carefully. | The mode of interaction with the crayons is sensory because the child is more interested in exploring how the crayons feel than looking at them or using them to color. |
| | | Eric is in the housekeeping corner with two other girls. He picks up a container to his nose, it looks like a salt shaker, and smells it. | The predominant mode of interaction here involves smelling, a sensory mode, rather than motor. |

| CATEGORY | DEFINITION | EXAMPLES | COMMENTS |
|---|---|---|---|
| Auditory | Although listening is involved in most interactions, it is coded only if it is the only mode in which the given interaction could occur, e.g., listening to a story, participating in a conversation in which listening alternates with talking, listening to a teacher's instructions. | The teacher has just asked a child to give the Chinese word for green. She looks at the child as he says the word in Chinese. | The interaction with the child has been elicited by the teacher. The child is responding to or interacting with the teacher using the auditory mode. The teacher's interaction with the child has also been elicited and the modes are auditory and visual. |
| | | Karen is still talking with Kevin and listens as he answers her question. | The predominant mode is auditory although it is quite possible that she may also be looking at the child. |
| | | Andrew looks in the direction of the record player as the next record begins. | Although it does not specify that Andrew is listening, it is evident from the nature of the material used, the record player, that the predominant mode would be auditory, not looking. |
| None | Indication of a lack of response when a response would be expected. | (a) Ann comes over and kisses him on the cheek (b) but he continues to draw and (a) does not look up or respond. | This is a simultaneous interaction in which the (b) portion would involve an ongoing interaction with a material and the (a) portion, which is divided, indicates a lack of social responsiveness where it would normally be expected. Therefore, the appropriate mode is None. |
| | | (a) The teacher asks him to join the group meeting. He ignores her (b) as he continues to smooth out the sand. | This simultaneous interaction indicates an instance in which an interaction has been elicited and where a response would be appropriate. Since no response is given, the mode is None. The (b) interaction would involve a continuing interaction with the sand. |

IV. QUALITY: The intensity and type of involvement in an interaction. This is divided into two comparable domains of behaviors: those directed toward individuals, Social, and those directed to Materials and Equipment. Each of these domains contains two five-point hierarchical scales. For Social interactions, the Intensity or interest and the extent of Reciprocity is scored. For Materials interactions, the child's Intensity or involvement and the Level of Use is scored.

CATEGORY: SOCIAL INTENSITY -- the degree or extent of involvement; the interest the child demonstrates in engaging in interactions with others.

| LEVEL | DEFINITION | EXAMPLES | COMMENTS |
|---|---|---|---|
| 1 | Lack of response in situations in which a response would be expected. | Paul gently kisses Ann's (child observed), but she doesn't lift her head or say anything to him. | It would be expected that Ann should make some response to at least indicate awareness of Paul. |
| | No attempt or interest in making contact with another individual; purposeful lack of reaction to another's attempts to initiate interaction. | Ellena is sitting at a table coloring. Paul comes over and taps her on the shoulder. Ellena moves her shoulder as if to get rid of Paul's hand but shows no other desire to interact. | This is coded at 1 because it is a clear disinterest in engaging in an interaction. |
| | Passive acceptance of another individual without indicating awareness of his presence. | Cindy is wandering around the room. Francine comes over to Cindy and takes her hand. Cindy lets Francine take her hand but does not look up or seem to care. | This illustrates that an interaction has occurred. However, the child observed has shown no interest in it nor has she invested any energy into the interaction. |
| 2 | Minimal interest or initiative in engaging in interactions. This is indicated by such behaviors as a glance, look, slight smile, softly spoken hello or other simple phrase. | The children are standing around waiting for the teacher to tell them what to do with the gardening tools she has handed them. Michael looks over to Jeffrey then back down to the spade in his hand. | Michael is minimally aware of Jeffrey but has not given any indication that he wants to initiate or pursue an interaction. |

| LEVEL | DEFINITION | EXAMPLES | COMMENTS |
|---|---|---|---|
| 2 (continued) | Passive participation in a group discussion or with a large group of children | The teacher is calling roll. Allan is looking around at the group. | Allan's interest in the group is limited to a general awareness of their presence. He does not appear to be focusing on the children whose names are being called. |
| | Passive compliance with a teacher's request; child follows the teacher's instructions. This behavior is often a component of a simultaneous interaction in which the teacher requests that the child work with a material in a prescribed manner. | The teacher asks Tracey to put a red cube on the red cube. Tracy begins to search through the box for a red cube which she takes out. She places the cube on the square which the teacher indicated. | These are successive simultaneous units. In both units the teacher has requested that the child complete a task in a specific manner. Therefore, an interaction with the teacher is coded showing the child's compliance with the teacher and awareness of the teacher's presence. The child's work with the material is also coded for Level of Interest and Level of Use (see p. ____) |
| | Awareness of another person which has been elicited by a third party. | Christina is seated in a group Spanish lesson. The teacher calls on Jose to tell them the Spanish word for clock. Christina looks at Jose as he answers. | Christina's looking at Jose has been elicited by the teacher having called his name. |
| 3 | Moderate degree of initiative in beginning an interaction as indicated by a clear verbal and/or non-verbal request by a child to another individual. | Kenny is in the block corner with Willy, Daniel, Jason, Carlos and Gary, playing with the blocks and trucks. He gets up and says to the assistant teacher nearby, "Look at this, Rose," pointing to his truck. | Kenny is initiating the interaction by a combination of verbalization and gestures. This level of intensity is applicable to all other similar instances of the child calling attention to himself or his work. A higher level would be indicated if the child "jumped up and shouted;" "laughed as she said . . .," etc. |

| LEVEL | DEFINITION | EXAMPLES | COMMENTS |
|---|---|---|---|
| 3 (continued) | | | That is, the addition of other modes and strong affective involvement would indicate a higher level of intensity in initiating an interaction. |
| | | Andrew is seated in his wheelchair waiting for the group to move back to the classroom. He has been talking to Robbie who is standing to his left holding on. Robbie looks away. He looks at Robbie and smiles as he taps him on his shoulder trying to get his attention. | Andrew is using two modes, smiling and a gesture, to get Robbie's attention. The tapping is a clear indication of a desire to interact. |
| | Child demonstrates a moderate level of interest in an ongoing interaction. Child may be attentively listening to other's response, watching and listening to others who are talking, or may be adding a brief verbal or non-verbal comment to the conversation. | Carol is seated at a table with a group of children who are working with the teacher who is helping them to trace their names. She looks at Henry and watches as the teacher is instructing him where to write his name. | The child is more than casually involved with looking at another child in the group. There is a clear indication that Carol is interested in listening to the interaction between the teacher and Henry. This would be coded as directed to teacher/child and would be coded as only one level of interest. |

| LEVEL | DEFINITION | EXAMPLES | COMMENTS |
|---|---|---|---|
| 3 (continued) | Child is a participant in a group activity as indicated by behaviors which show a moderate level of interest such as verbal responses, gestures or moving around the room with a group of children. | Christine is involved with a group lesson in Chinese. She looks up at the child who has been asked to give the Chinese word for red. She says the Chinese word for "red" along with the group. | Christine has been involved in this group for a while. It is clear from her eye contact with various members of the group and her repetition of the word that she is somewhat interested in following the activity. This response would be coded as directed to the group. |
| | | Bill is running around the gym with Anthony, Pam and Carolyn. He is running around the gym with Anthony and Pam following behind and Carolyn in front. | This is a group activity in which clearly extra initiative is demonstrated by Bill, more than simply remaining a part of this group. |
| 4 | Child demonstrates extended effort or initiative in engaging another (others) in an interaction. This is usually indicated by verbalizations and expressive tone of voice, facial expression, or demonstration of affect, such as a smile. Extended interest may also be indicated by content which reveals interest in others or concern for another's feelings. | Louis is in the playroom with most of the group using a "car" which he propels by pushing himself forward with his hands. He seems very interested in trying to "talk" to Kim who is crawling nearby. He's trying to get her attention by waving his hand, making some sounds by patting his hand on the floor and moving slightly forward on the car, but she doesn't seem aware of him as she heads for the door. | Louis is exerting himself in order to become involved in an interaction. He had at first looked at her for some time with curiousity. He then used both gestures, sound (patting the floor) and movement forward. |

| LEVEL | DEFINITION | EXAMPLES | COMMENTS |
|---|---|---|---|
| 4 (continued) | Child is engaged in ongoing interaction which reflects clear evidence of an extended conversation. This may be indicated by the content, facial expressions, even the intensity of the gaze of the child attentively following another's conversation. | Vicky and Melinda are in the book corner looking at a book together. Vicky points to a letter and says "That's an 'e'." Melinda says, "No it's not." Vicky looks up and replies, "I know it's an 'e' because I wrote it." | Vicky is involved in an ongoing conversation. Based upon what she says, there is some indication of self-assertiveness. Some degree of assertion or extra emphasis is usually typical of behaviors at this level. |
| | Child is involved in group interactions in which the child's role is distinctive, i.e., may reflect leadership, involvement in dramatic play situations in which child may begin to assume a specific role. | Maria is in the pretend house, which a group of children have made previously, playing with the telephone. She picks up the receiver and she hands it to Alec and says, "Do you want to talk to my friend?" | Since Maria is involved in pretend play, the request demonstrates a more elaborated attempt to initiate a social interaction with another child. She also is clearly the initiator of a dramatic play sequence. |
| 5 | Child demonstrates persistence in attempting to initiate an interaction. | Jason has been going around the room riding on a broom. He begins to hit at Sal with the broom. Sal doesn't pay any attention. He now holds the broom over Sal's head and begins to say, "I'll melt you down, I'll melt you down." Sal looks up. | Jason is employing a great deal of energy to engage another child in an interaction. He has used a combination of aggressive behavior with verbalization to attract Sal's attention. |
| | Child elaborates and expands upon current interaction as indicated by heightened voice, strong affective reactions, aggressive actions or content of interactions. | Eileen is excitedly running around the gym with Billy and Ellie. Eileen takes hold of Ellie's hand saying, "No, let's get," as they all collapse down on the floor in a pile laughing. | An involvement has escalated into a friendly mayhem reflecting intense pleasure and involvement. |

| LEVEL | DEFINITION | EXAMPLES | COMMENTS |
|---|---|---|---|
| 5 (continued) | | Eric is in the block corner with a group of children holding onto an airplane. Martha has just taken his plane from him, telling him he can't land there. He grabs the plane back and says, "Well, they can beat you up." | In this example, heightened involvement is also an instance of a negative interaction which may be noted by an N alongside the coding. |
| | Child is engaged in role playing in which a character role is maintained in actions, gestures and language. | Marcia is pretending to be a Mommy. Carrie is in the doll carriage pretending to be a baby. Carrie starts complaining that she is falling. Marcia, in a grown-up tone of voice, says "Hold on like this. You won't fall off. That's all. Holding on never fails!" | Marcia indicates not only that she can assume a role but is also able to use language and act "as if" she were a "Mommy". |

CATEGORY: SOCIAL RECIPROCITY -- The extent to which a child is involved with, responds to, or is responded to by another individual. Reciprocity involves an interactive situation between two individuals. The subject of the observation being coded may be either the initiator or the respondant. Reciprocity is also coded in situations in which subject child and another individual are sharing materials or are jointly involved, e.g., joint block building, dramatic play, group involvement in gym or playground. Interactions in which a response would not be expected, i.e. the individual(s) with whom child attempts interaction is(are) unaware of child's presence, are coded as N.A. (Not Applicable), e.g. Carol watches the boys fighting. She is reacting to a group of children, but a response from them would not be expected although it may occur and would then be coded as one of the following:

| LEVEL | DEFINITION | EXAMPLES | COMMENTS |
|---|---|---|---|
| 1 | Lack of reciprocity:<br><br>Child tries to make contact but receives no response. | Alfie asks if he can join the game, but nobody at the table looks up or responds. | Alfie indicates interest in other children by verbally initiating an interaction. The level of the child's interest does not determine the level of reciprocity the child will receive. If the group had indicated in some fashion any awareness of Alfie's presence, then a higher level of reciprocity would be noted. |
| | Child does not respond when asked or in situation in which it would be appropriate. This is frequently coded in situations in which the Source is Elicited and the Mode is None. | Jason has just picked up a piece of a toy from the floor. Gary comes over to him and says, "Jason," but Jason ignores Gary and looks across the room.<br><br>The teacher calls to Louis who is leaving the room, "Wait, Louis. Wait for the group." (a) He does not wait, though, (b) as he runs along with Kenny. | Jason does not respond to Gary at all in a situation in which acknowledgement by at least turning to look at Gary would be appropriate.<br><br>This is a simultaneous unit in which Louis ignores the teacher in part (a), but in part (b) he is involved with another child. That is, the level of reciprocity in one part of a simultaneous interaction is unrelated to the reciprocity in another part of the simultaneous interaction. |

| LEVEL | DEFINITION | EXAMPLES | COMMENTS |
|---|---|---|---|
| 2 | Child is passive participant in interaction and does not indicate any desire to engage in ongoing exchange. This is usually noted by behaviors such as looking at, a slight nod of the head, or permitting someone to make contact. | Lorraine is at a table where children are working with manipulative materials. She has a piece in her hand which Eric comes over and takes. She looks up but doesn't complain. | Lorraine is reciprocating to the extent that she looks up and is aware of Eric's presence. Note: The appropriateness of the response is not directly coded. If this type of reaction is common to the child, the overall summary will reflect this. |
| | | The children are lining up to go outside. Cynthia takes Evelyn's hand. Evelyn lets her without responding in any other way. | This is reciprocal to the extent that Evelyn is permitting another child to make physical contact with her. |
| | Child responds to simple request, e.g. if teacher or another child elicits a social interaction or interaction with material, the child complies. | Denise is seated at a table where she is supposed to be tracing her name. Mrs. D., Carmen's mother, is instructing them what to do. (a) She is following Mrs. D's instructions as (b) she begins to trace the first letter of her name. | Denise is engaged in a reciprocal interaction with Mrs. D. in that she has listened to her and is now carrying out her instructions. This is a simultaneous unit in which Denise's work with educational materials (b) is also elicited. |
| | Child is passive member of a group in which a limited level of reciprocity is demonstrated. This is usually applied to teacher-led groups in which the child attends to what is happening, may follow along as different children are called upon, or may answer rotely with the group. | Carolyn is seated with the group as they listen to the teacher conduct a group lesson on numbers. Jeffrey is called up to the chart by the teacher and Carolyn looks up to him and seems to listen as he answers. | Carolyn's reciprocity is directed to the group and indicates group involvement. |

| LEVEL | DEFINITION | EXAMPLES | COMMENTS |
|---|---|---|---|
| 2 (continued) | | The teacher comes over and asks the group how many children are here today. Sandy answers rotely with the group, "Ten." | Sandy is a member of a group structured by the teacher. This response would be simultaneously coded as elicited to the teacher and to the group. In both instances, the level of reciprocity is 2, since neither indicates any specific direct involvement with another individual. |
| 3 | Moderate level of reciprocity:<br><br>Child is involved in balanced interaction in which each of the participants exchange comments. This usually takes the form of polite conversation, e.g. "What is it?" "It's a fire engine," or simple non-verbal interaction, e.g. child points to an object, other child identifies it and hands it over. | Jennifer is playing a game of concentration with several children. The student teacher who is directing the activity says, "You go, Jennifer." She says to him that she doesn't want to go.<br><br>The teacher says in an annoyed tone of voice, "Joseph, be careful, O.K.? Joseph just looks at her seriously, as if he's wondering why she is telling him that when he is not getting into any mischief or doing anything dangerous. | This is a brief social interchange in which the child listens to the statement/question and replies. The child's level of interest may be the same, higher, or lower than the level of reciprocity.<br><br>In this instance, the simple reply is a facial expression which is equivalent to the child saying, "Yes, I hear you." |
| | Child is involved to a moderate degree in group activity or teacher-led activity in which child is active participant. That is, child is attending to events and is active participant in activity as indicated by facial expressions, affective behavior or content of verbalizations. | Carol is sitting in the first row with a group of children involved in a group phonics leasson. (a) She is not paying any attention to the commotion at the door (b) as she tries to make a sound like "F" makes, imitating the sound another boy has just made. | Carol is more than rotely imitating a sound, she clearly is trying to follow the activity as is indicated by the fact that she does not react to the extraneous events mentioned in the (a) portion of this simultaneous interaction. |

| LEVEL | DEFINITION | EXAMPLES | COMMENTS |
|---|---|---|---|
| 3 (continued) | | Steven is seated in a semi-circle with all the children in the group. The teacher is singing, "How many children are here today?" Steven sings along as she sings, "Where is Eddie?" | In this instance, reciprocity, or group interactiveness is implied in that Steven is joining in with a group activity. He is an active participant because he is singing. |
| | Child is involved with group play of an associative nature in which child is part of a large group but has not assumed any particular role. This includes play in which: children run around together but without a specific goal; an entire group is engaged in dramatic play but not as a cohesive unit; children are engaged in similar tasks but not really together, e.g. they are next to each other, scooping and pouring at the sand table. | Noemi is at the playground with the entire class. A group of children come running by. Mary takes Melanie's hand. Melanie joins the group as they run over to the other side of the play-ground. | This is an example of a behavior which is originally elicited by a child (Mary). The next unit, underlined section, is an ongoing interaction in which Melanie is now part of a group. Thus, the behavior is directed to the group. The level of reciprocity is 3 since Noemi is one participant among many children without assuming a specific role or interacting more intensely with one child. |
| | | Jack and Michael both have on fireman's hats and are running around the room. Jack watches Michael as he takes off his hat and pretends to talk into his walkie-talkie. (a) Jack does the same thing (b) with his walkie-talkie. | This simultaneous unit represents an example of unspecified dramatic play. Through the use of "dress-up" clothes and props, the children are indicating evidence of dramatic play. However, they have not assumed specific roles. |

| LEVEL | DEFINITION | EXAMPLES | COMMENTS |
|---|---|---|---|
| 4 | Child is engaged in extended interactions with another individual. This usually involves ongoing communication in which subject child will alternately talk, listen, question and/or express affect. | Jamie and Philip are following each other around the room, jumping up and down, imitating each other's motions. Jamie has gone over to the fish tank and Philip comes over to him. (a) Jamie is talking with Philip (b) as they look at the tank (a) discussing what's inside. | In this simultaneous unit the (a) portion, divided by an interaction with an educational material, indicated that Jamie is continuing and extending his interaction with Philip in that they are now involved in a conversation about the fish tank. |
| | | Edward has been trying to pull himself up a wedge with his hands. The teacher has been working with him, helping him by holding his legs from behind since they keep on falling over the side. With a grimace on his face, Edward finally pulls himself to the top. The teacher and Edward smile broadly at each other. | This example reflects extended reciprocity between a teacher and a child. Although extended, the entire interaction has been non-verbal with the predominant modes being facial expressions and eye contact (visual). |
| | Child is engaged in a cooperative task in which there is joint work toward a common goal, e.g. building together with blocks. | Anthony is trying to adjust a piece of tracing paper in a clip board so that he can trace some shapes. He tries but can't push hard enough. The child to his left says, "Gimme, I'll do it." Anthony hands it to him and watches, holding down the edge as they finally get it straightened out. | Anthony has a problem which he permits another child to help him solve. |

| LEVEL | DEFINITION | EXAMPLES | COMMENTS |
|---|---|---|---|
| 4 (continued) | | Annie and Diane are at a table, each working on their own bristle block construction. Diane who has trouble adding some blocks, puts her's down. Annie picks it up and says she'll do it if Diane holds it down. Diane is now stabilizing it as Annie adds the wheels. | This is a simultaneous unit in which the two components are tightly interwoven, i.e. as the work with materials is continuing, the reciprocal sharing of the task is also continuing. |
| | Child is engaged in dramatic play in which clear roles have been assumed, but content is not elaborated, i.e. roles of mother, father, baby, but not of pretend characters. | Carrie has just gotten into the carriage that Jessica is pushing. Jessica carefully covers Carrie with the blanket. Carrie looks up and says "Mommie." Jessica, who is not able to communicate verbally, looks down and smiles. | In this interaction, unelaborated role playing is evident. The children have taken on the roles of Mommy and baby with Mommy being the child who pushes the baby carriage and baby as the one inside the carriage. In this observation, careful attention has been paid to Jessica's facial expression since this is one way in which she reflects her involvement in an interaction. |
| | | Kimberly is out in the playground with most of the class. Kimberly is pretending to be a mother as she chases after Connie who is pretending to be a frightened monkey as she swings across the jungle gym rung by rung. | This is another instance in which the children have spontaneously assumed roles in an unelaborated type of dramatic play. |

| LEVEL | DEFINITION | EXAMPLES | COMMENTS |
|---|---|---|---|
| 4 (continued) | Child is integral member of a group activity led by the teacher, e.g. child is involved with ongoing group discussion in which child's responses indicate awareness of other's opinions. | The teacher has been running a group lesson on vegetables. They are learning the Spanish names for vegetables that they planted in their garden. Pam is very involved with the lesson as she looks at the pictures, repeats the word, then makes it into a rhyming game. Finally, Pam raises her hand and asks the teacher, "Did we plant Spanish vegetables?" The teacher laughs as she again explains the object of the lesson. | Pam is actively involved in the group lesson, aware of the lesson to the extent that she has asked a relevant question of the teacher. Although the previous units, in which Pam supplies the verbal label, are directed at the group, this interaction is directed to the teacher. |
| | | Bill is seated in his wheelchair in the middle of a long line of children who are watching the teacher and singing along with the "washing song." He is laughing as he calls out to the assistant, "Wash your toes," as he tries to do the motion and bends down. The assistant teacher is now laughing, too, as he tries to follow Bill's motions. | Bill has picked up on the rhythm and focus of the song as he tries to extend it and engage the teacher in his version of the song, thus creating an extended reciprocal interaction. |
| 5 | Child extends ongoing conversation and is responsive to other's feelings, opinions, desires and responds with concern. This concern or extended involvement is indicated by heightened affect, tone of voice, the content of the verbalization and/or elaborated gestures, e.g. holding another's hand while laughing along with them. | A boy has come over to hug Jason. They're hugging each other but Jason is doing it a bit too hard. Jason appears ready to hug the other boy again, but before he does, the other boy looks at him and pointing his finger scoldingly says, "Now do it gently." Jason hugs him warmly and they both start laughing as they hold onto each other. | This interaction reflects caring, concern and responsiveness. The interaction has been extended and the non-verbal child, Jason, is able to express his feelings in a highly communicative manner. |

| LEVEL | DEFINITION | EXAMPLES | COMMENTS |
|---|---|---|---|
| 5 (continued) | | Stevie grabs onto Timmy's wheelchair again. Timmy turns to Stevie this time and says "Stop!" As he reaches over and scratches Stevie's arm, Stevie yells out, "Ow," painfully. | There is an indication that this is part of an ongoing sequence. Timmy's action and Stevie's response reflect a high level of negative reciprocity. Even though Timmy's action may be called for, an N , to note a negative interaction is placed next to the unit number and the proportion of negative interaction is tallied separately. |
| | Child is working toward a common goal in which each participant has planned out, and is assuming, a small component of a larger task; there is indication of camaraderie as is evident by affective responses, gestures, etc. | Eric is working with Alfred on a large block construction of a court house. They both suddenly realize that they have forgotten the underground water pipes. The teacher tells them they'll have to excavate and explains the process. Eric looks up at Alfred and says, "You pick up the blocks over there and I'll get the pipes." Alfie replies, "Okay, I'll raise the roadway while you join the water system." | Eric has listened to the teacher's explanation and now returns to his interaction with the child he has been working with. They then jointly plan their plan of actions, each listening to and responding to the other. |
| | Child is involved with continuous dramatic play sequences in which children assume characterizations and maintain intonation, or verbalization, appropriate to role. | Richie, acting as if he were Superman, is very involved with his building, working quite purposefully. Melissa comes over and says, "Won't you, just for a while, babysit? Wonder Woman has to go shopping and Superman needs to babysit and Wonder Woman's little baby needs a babysitter." Richie replies in a very deep voice, imitating a man's voice, "O.K., I will for a while. But remember, I'm too busy to play with her." | In this unit, Richie has taken on all the characteristics of another character in tone of voice and content. The other child is also acting in a role. Therefore, they are both reciprocally involved in role playing. Even if the exact content were not clear, the tone of voice, probable facial expression, and responsiveness to the other child would reflect extended involvement. |

| LEVEL | DEFINITION | EXAMPLES | COMMENTS |
|---|---|---|---|
| 5 (continued) | | Miriam is in a pretend house that a group of children have made, talking on the telephone. She hangs up the receiver and says "Shucks." She then sticks her head out of the window and says, in a voice like a mother scolding her children, "What did you do to John, children?" She listens as they each in turn tell her that they cracked his neck and chopped off his head. | The entire group of children, Miriam, and the boys "outside," have assumed roles in an elaborated type of play in which an imaginary person is talked about by all. There is clearly a great amount of shared involvement reflected in this interaction. |

CATEGORY: MATERIALS INTENSITY -- The extent to which the child demonstrates interest in a material or initiative in beginning a task or activity.

| LEVEL | DEFINITION | EXAMPLES | COMMENTS |
|---|---|---|---|
| 1 | Child shows no interest in a material which has been presented to the child by the teacher or other individual. | Kevin is sitting at a table, glancing idly around the room, apparently bored and disinterested today. When the teacher, Jean, puts a puzzle in front of him saying, "Kevin, I brought something for you," he looks at her briefly but is so disinterested that he doesn't even look at what she's put down for him. | Kevin is not even mildly interested in having anything to do with the puzzle. |
| | Child does not respond to a request to begin a task. | Ann asks Nancy to make some circles on the paper. Nancy looks, with an annoyed expression on her face, at Ann, but makes no attempt to draw the circles. | This is a simultaneous unit in which there is a social interaction with Nancy expressing displeasure with Ann. Although requested to makes the circles, she is not responding to this task. |
| 2 | Child is minimally aware of presence of material (touches, looks at), but is not currently using the material in a goal-directed manner, or is not exploring properties of the material. | Joan looks at the Lego blocks but doesn't do anything else with them. | Looks at but with no further intent to explore or use materials. |
| | Child displays limited involvement with materials. This may be indicated by idle holding of a material. Note: Holding a material is coded only when this is the only behavior in a given unit and if the child has previously indicated some interest in the material, e.g. Peter picks up a block and passes it from hand to hand. (No intent to use and no indication of other involvement.) | Philip is seated at the table with a partially completed necklace of wooden beads in front of him. He is now just sitting there holding onto the necklace. It doesn't even appear that he is trying to figure out what to do next. | Philip has been involved in the use of the beads; his interest, however, has dropped but it does not appear that it is because of a greater interest in another activity or a social interaction. |

| LEVEL | DEFINITION | EXAMPLES | COMMENTS |
|---|---|---|---|
| 2 (continued) | | Joseph is pretending to feed a baby. Pat comes over to him and asks him a question. Joseph, holding the baby by one arm, responds to Pat's question excitedly. | Joseph is more involved with the social interaction with Pat and appears to be unaware of the doll in his possession. Therefor this unit would not be coded as a 2 for materials.) |
| 3 | Child shows moderate interest in materials. This may be indicated by some exploration of properties or initial curiosity about functional attributes. | Keith is at the sand table with Alan. Keith turns the sand mill on it's side and watches to see what happens as he turns it slowly. | Keith is showing some interest in and curiosity about a material. However, it is not yet extensive exploration. |
| | | Jamie is in the housekeeping corner. He drops a piece of plastic fruit into the sink and it bounces out. He takes it out and looks at it curiously. | Jamie's involvement is a bit more than casual. However, it is not a intense, carefully planned trial-and-error exploration of the material. |
| | Child shows some initiative or interest in use of material, but is not yet fully absorbed in working toward final goal. This is often the case when the child is carrying out a task solely because the teacher has specifically directed the child's action step by step. | Frank is sitting at a table with a pencil about to trace his address which is under a piece of tracing paper. He straightens the card with his address and presses down the tracing paper so that he can read the address better. | Frank is working on a task, at least the preparatory stages. At this point, it is not possible to tell whether he will trace his name or not. |

| LEVEL | DEFINITION | EXAMPLES | COMMENTS |
|---|---|---|---|
| 3 (continued) | | The teacher tells Jeanne to circle the pictures of living things on the ditto sheet in front of her. Jeanne circles three of the pictures without really looking at them too carefully. | Jeanne does complete the task but in a matter-of-fact manner without demonstrating much initiative or interest. |
| | Child is using the material in an appropriate but perfunctory manner. This is sometimes indicated by a lack of facial expression, verbalization, or gestures while working on a task, or when a child's attention is divided between two tasks. | Edward has been rolling play dough back and forth on the table as he continues to talk to Joshua about Batman. | In this interaction with playdough Edward is using the material playdough, in an uninvolved but somewhat appropriate manner. The discussion of Batman is of at least as much if not greater interest. |
| | | Denise is working on a simple puzzle which contains four distinct pieces of fruit. This is a puzzle which she seems to do almost every time I observe. She now rapidly inserts them all while looking over to her right at the picture Ellen is drawing. | A task which is too simple for a child or one which a child has completed many times before may not engender any interest. Although Denise seems purposefully involved, she is dividing her attention between the puzzle and watching another child. |

| LEVEL | DEFINITION | EXAMPLES | COMMENTS |
|---|---|---|---|
| 4 | Child demonstrates extended interest in trying to determine the properties of an object as indicated by purposeful trial-and-error exploration. | Jack has been playing a game with some plastic discs and one accidentally falls on the floor. He picks it up and drops it again, watching to see how it bounces, and apparently listening to the sound that it makes. | Jack has interrupted his work with the material. However, he appears just as interested in exploring what happens as in using it as intended. |
| | | Marsha is at the water table where a group of children are engaged in play with a wide variety of assorted objects. Marsha picks up a sheet of plastic with large holes and seems to notice that they are covered with a film of soap. She again places the sheet under the water and now slowly pulls it up and watches as the soap film fills in each space. | Marsha is engaged in purposefully explorative play with a material. She is not only showing curiosity but using trial-and-error type of behavior to work through a problem. Many unstructured materials lend themselves to this type of self-initiative. |
| | Child works through task as intended showing some interest in and awareness of what is happening. | Michael is working with a set of graduated cylinders. He's now replacing the second largest cylinder as he says "...and now the next largest." | Michael is completing the task as structured by the material. His interest in the material is indicated by his verbalization. It might also be indicated by facial expression, eye focus, or affect. |
| | | Scott is completing a puzzle involving number sequences. He smiles to himself as he inserts the card with the number "12" between "11" and "13" after checking it with the number line-up on the wall. | Scott's interest in completing the task as set up is indicated by both his facial expression and his visual checking of the number line against what he has done. |

| LEVEL | DEFINITION | EXAMPLES | COMMENTS |
|---|---|---|---|
| 4 (continued) | Child demonstrates some creativity or imagination in use of structured or unstructured materials. | Frank has been discussing addresses with the other children as part of a lesson. He's holding the paper and pointing to it. He says to the group, "We did it wrong," while putting his card underneath his paper to trace it, although he's supposed to copy his address. | Frank has re-structured the task somewhat by tracing his address rather than copying it. Although he knows he is supposed to copy his address, he has decided independently to trace it since that is apparently easier. |
| | | Joseph is playing with a baby, pretending to put it to sleep. He picks up the baby doll, puts it in the carriage and begins to rock it to sleep. | Joseph is showing interest and some imagination as he tries to put a baby to sleep in a way in which he has probably seen other children put to sleep. |
| | Child shows creativity by spontaneously using material or restructuring task in a unique and clever manner. | Kelly is putting rubber bands on the geo-board saying "It's a square She removes the rubber bands that don't belong to the square. Kelly now selects out four blue, four green and four yellow rubber bands. She picks up the four yellow and creates a concentric square directly outside the one she has already made. | Kelly has used her initiative to spontaneously restructure the task from one in which a child just stretches rubber bands into one in which colors and shape are criteria. If the teacher had designated the tasks as such, then Kelly's level of interest or involvement would have been at a lower level. |
| | | Elizabeth, after cutting a butterfly out of construction paper and flying it around in the air, suddenly turns to Lisa, a visitor, and says, laughing, "Look at my new glasses," putting the creation across her eyes. | The content of the verbalization in the social component of this interaction gives the clue to the level of initiative that Elizabeth has shown. She has spontaneously realized that her cut-out of a butterly could also be viewed as a pair of glasses because of the cut-out design. |

| LEVEL | DEFINITION | EXAMPLES | COMMENTS |
|---|---|---|---|
| 5 | Child demonstrates heightened interest or involvement while engaged in a task. Child works through task with persistence either through extra physical effort or in terms of solving a problem by using cognitive abilities. | Robert has been digging outdoors as follow-up to a lesson on living things. However, he is barely scratching the dirt with his forked gardening tool. He now stands up and leans down on it, smiling as a lump of dirt is finally loosened. | Robert is really exerting himself physically in this task. He has also repositioned himself in a manner so as to create extra leverage. Facial expressions such as smiles, frowns or puzzled expressions are often clues to the extent of effort that the child is using. |
| | | Dana has been working at the sand table with a number of toys for scooping sand and measuring. She is now carefully repositioning a funnel through a tube which is resting on top of another bigger plastic container with a very narrow opening in the top. | Dana has realized the use of the funnel, to fill up containers which have a narrow opening, and is delicately combining the materials so that she will get the desired results. The persistence that the child demonstrates in working through a task independently is the crucial factor in determing the level of interest, not the material that the child is using. |

CATEGORY: MATERIALS
LEVEL OF USE -- Degree to which child demonstrates awareness of or works toward goal of task whether motoric, manipulative, cognitive or symbolic. This is applied to a child's interaction with all types of educational materials and with educational equipment. At times child may show interest in a material (which would be coded for intensity), but may not be able to use material since it is on a shelf or in someone else's possession, e.g. he looks at the ball that Riccardo has. Level of Use could, therefore, not be coded and N.A. (Not Applicable) would be placed in the Level of Use column. When child is in possession of material or involved with a material which can be looked at or listened to, but not held, then one of the following levels is applied:

| LEVEL | DEFINITION | EXAMPLES | COMMENTS |
|---|---|---|---|
| 1 | Child does not use material when its use has been explicitly or implicitly elicited. | The teacher tells Dominic to pick up the ball which has just rolled over his feet. He does not make any attempt to reach out for the ball, just sits there idly looking to the side. | In this instance, it would seem unlikely that Dominic is totally unaware of the ball, since he is not involved with another activity. If the child is intensely engaged in another activity, then it is possible that the request was not heard and it would be inappropriate to code the unit. |
| 2 | Child demonstrates minimal awareness of goal. The child may touch, look at, or pick up material but does not give any evidence of any type of purposeful exploration or use. | Louis is at the sand table throwing some sand to the other side of the table. | Louis gives no indication of purposeful use. The activity appears to be random and disorganized. |
| | | Raymond has crawled over to where the teacher has directed him. He looks up at a large plastic circle there and at the teacher as if to say, "What am I to do now?" | In this case, the child is aware of the presence of a piece of educational equipment. However, the child looks to the teacher for assistance rather than trying to manipulate it himself. |

| LEVEL | DEFINITION | EXAMPLES | COMMENTS |
|---|---|---|---|
| 2 (continued) | | Pam is outside with a group of children who are there to draw things that they see in the park. She's just sitting there lifting the paper edge up and down, not doing anything special with it. | The observer has given no indication that the child is flipping up the paper edge in order to see what happens. It appears that the child is very uninterested in using the material. Since Pam is not involved in any social interaction at the same time, this interaction with the material is coded. |
| | The child begins to indicate awareness of use by making initial preparations, e.g., placing on table. | Daniel is seated on the floor near the pieces he has just dumped out of the puzzle. Daniel scoops the pieces of the puzzle toward himself. | Daniel is demonstrating the initial stages to get himself ready for use of the puzzle. Removing the puzzle from the shelf and dumping the pieces out would also be at level 2. |
| | | George is outside in the playground looking around for something to play with. He goes over and sits down on a small scooter. | This interaction is directed toward a piece of educational equipment. The child has not indicated any clear awareness of use, but he has at least designated that he plans to use this piece of equipment. The mode which he has used to indicate this is motoric. |
| | | The teacher is out in the garden with some of the children who are there to assist her in planting a garden. (a) Larry picks up a shovel (b) and hands it to the teacher. | In this simultaneous unit, Larry only handles the equipment in (a). He does not indicate that he is going to use it to dig. In part (b) this piece of equipment is handed to the teacher and, therefore, becomes incorporated into non-verbal communication with the teacher. |

| LEVEL | DEFINITION | EXAMPLES | COMMENTS |
|---|---|---|---|
| 2 (continued) | Child has indicated use, or has decided not to use and replaces material appropriately. | The teacher says that it is time to clean up. Mariane pushes all the cards together that they have been playing with. | Although an involved activity may have been going on for quite some time, the use of the material in this unit is limited. It should be noted that this unit would represent a simultaneous, elicited interaction with the teacher, although this is not explicitly stated. That is, the child is listening to the teacher and responding to what has been said. |
| | | Peter has taken out all the blocks that he needs for now. He closes up the container with the remaining pieces and puts it back on the shelf. | Peter is in an interim stage in using the material. However, for this particular interaction, all that can be coded is that he is putting the material away. |
| 3 | Child is aware of goal of task and appears to be working appropriately toward the completion of the task as intended or as established by teacher. However, child has not reached goal. This includes the organization of materials prior to, during, or at the completion of the actual work. | Lorraine is working with some play-dough. She is rolling a small piece of dough between her hands. | This is an appropriate use of playdough. However, it is actually a stage toward using the dough in a more focused manner. This is similar to rolling dough into balls, applying paste in the process of making a collage in that each indicates that the child knows the use of the material. However, we are not yet sure if the child can define the task more precisely. For playdough, a more precise definition might be to use this "snake" as a bracelet, join it into a circle, or make a donut. |

| LEVEL | DEFINITION | EXAMPLES | COMMENTS |
|---|---|---|---|
| 3 (continued) | | Stephen is playing Lotto with a group of children. The teacher holds up a picture and says, "Who has an elephant?" Stephen looks up at the picture. | Stephen is involved with the task but has not demonstrated knowledge of the picture or visually checked to see if he has the identical picture on his card. Note that this is a simultaneous unit in which the behavior has been elicited to the material and to the teacher. |
| | | Nancy is over near the rocking platform where a physical therapist is sitting with a group of children. Nancy is trying to pull herself up onto the platform alongside of the therapist. | This is an interaction directed simultaneously to a piece of educational material, the rocking platform, a therapist (coded as teacher since she is part of the ongoing staff), and a group of children. Nancy is actively involved with achieving the goal of sitting on the platform in order to rock. |
| | Child is involved in active exploration of task or materials toward clarification of functional attributes or to determine goal of task. | Louis has just come over to the sand table. After looking around for a moment, he picks up a hammer and begins to pound on the sand, watching to see what happens. | Although sand is intended for exploration, it can also be used in other more goal-oriented ways such as filling containers or pretending to make cakes. This type of activity in which the child is "watching to see what happens" is coded for Level 3 Use. However, interest may be at a higher or more extended level as the child experiments in different ways. |

| LEVEL | DEFINITION | EXAMPLES | COMMENTS |
|---|---|---|---|
| 3 (continued) | | Ronnie is on the floor during free play time with two baloons attached together. He's now tightly squishing them together against his chest, squeezing them as tightly as he can. | In this example, Ronnie is demonstrating a lot of interest in exploring the capacity of these balloons. |
| | Child is working on task as teacher directs, but appears not to be fully aware of final goal. That is, child does not show any initiative or demonstrate knowledge of goal of task independently. | Bobby has been working with the teacher making penny banks out of metal cans. He's now pasting on the American flag exactly where she said it should go. | Bobby is working on a teacher-directed task in which he has not indicated that he knows the appropriate steps without being asked. If the child shows some awareness of task demands by verbalization or other forms of communication, then a higher level can be used. |
| | | Lynn is seated at a table tracing her name. The teacher on her left reads the letters that Lynn has already traced and then asks Lynn to read them for her. Lynn now "reads" it back just as she has been told. | This type of interaction indicates that Lynn can follow the instructions as given and supply the correct answer. If she pointed them out as she were reading, or looked up questioningly as she read each letter, then the interaction would be at the next higher level. |

| LEVEL | DEFINITION | EXAMPLES | COMMENTS |
|---|---|---|---|
| 4 | Child demonstrates awareness of demands of task by working through to completion. This includes work with structured materials, unstructured material and pure cognitive tasks such as answering questions or reading. | Mark is sitting working on a puzzle. He is now holding a piece in his hand and looking over the puzzle frame to try to determine where it goes. Mark now places the piece down and rotates it to get it in correctly. | Mark is working through the task to completion by successfully inserting the pieces, Level 4. The unit preceeding this describes work at Level 3, since he is aware of goal but has not indicated that he can meet the demands of the task. |
| | | Sitting on the floor with a container of large wooden beads in front of him, Michael carefully inserts the string through a red bead looking at it very intently as he pulls the string out the other side. | This is an example of a child competently using manipulative materials as intended and would be coded in the same manner even if finer beads with a smaller hole were used. |
| | | Melissa is working very purposefully at the sand table as she scoops up some sand and pours it into her funnel, watching as it fills up the bottle. | Melissa is experimenting with the materials but in a well-organized fashion using the scoop and funnel appropriately. Her interest in what happens as she scoops is considered when coding her level of Intensity. |
| | | Carol is working very intently at copying her address. She is actually tracing it with a pencil from a card which the teacher wrote out. She says to herself, "Eight,"as she copies the number eight. | Although Carol is tracing her address, she seems aware of the task because she is reading the number to herself as she is writing. Most other reading and writing tasks are coded at the same level regardless of the complexity of the material read. If a child is using extra effort to read, then a high level of Intensity would be coded simultaneously. In all instances, the verbal Mode would be coded along with either Visual or Motoric. |

| LEVEL | DEFINITION | EXAMPLES | COMMENTS |
|---|---|---|---|
| 4 (continued) | | Evan is cooking with the help of the student teacher, making banana rolls. He is now carefully rolling the banana in the crumbs as he says to the teacher, "Is this the way?" | Cooking, if part of the curriculum of the class, can be coded in terms of use of Materials. In this instance, Evan is doing what is expected. The interaction with the teacher is coded as a separate component of the simultaneous interaction. |
| | | Andrew, the child who is blind, is playing Intasario, a game in which plastic geometric pieces are fit together into a plastic tray. The teacher hands him a piece and asks him what it is. Andrew feels it and says, "It's a square." However, it isn't a square. | The task in this case has been defined by the teacher as one of identifying shapes. The source is elicited to both the teacher and material. The mode is sensory/tactile for the material and verbal to the teacher. It is coded as a 4 even though the answer is incorrect, because Andrew is giving the teacher the type of information which she requested, e.g. the name of a shape. |
| | | Marsha is working with the student teacher and a group of other children making cardboard constructions. She is very concentratedly applying paint to the bottom of her box, carefully putting it into the corners and spreading it around evenly on the bottom of the box. | If a child is actually involved with painting in an organized fashion, even if this involves a very primitive type of painting, the behavior is coded at Level 4. Activities related to painting, such as wiping the excess paint off the brush, or taking the finished picture off, are coded at Level 3. |

| LEVEL | DEFINITION | EXAMPLES | COMMENTS |
|---|---|---|---|
| 4 (continued) | Child uses dramatic play props as intended, e.g. pretends to eat make-believe plastic fruit, dons dress-up clothes, washes baby. | Maureen is in the housekeeping area with Daniel. She picks up the telephone, dials it and says, "Hello, Doctor, my child is sick." Daniel says, "Okay, I'll be right over," in a very official tone of voice. | Maureen is using the phone as intended, she is clear as to its use. This interaction is part of a simultaneous unit in which the second part is a reciprocal interaction with a child in the context of dramatic play. |
| | | Claire is involved in dramatic play with several other children underneath the climbing structure. Claire is making believe that she is in a house. Claire now takes her pillow and blanket and is arranging a bed for herself on a bench. | Since Claire is using real props and using them as they have been designed, this is coded at Level 4 behavior. If she were pretending to make a bed using an imaginary blanket and pillow, it would be coded at a higher level. The interactions with the group in the context of dramatic play would be coded for Social Intensity and Social Reciprocity. |
| | Child uses educational equipment purposefully and appropriately. | Billy is in the large play area with many of the children. He now propels himself forward on his car making sounds like a car engine. | The child is using a large car in an appropriate fashion. The noises which accompany his movement are coded as play noise. If the child uses the car in a creative fashion, such as pretending that it is a delivery truck, then it would be coded at a higher level. |
| | | Leon picks up the frisbee and throws it back to the teacher with a squeal of delight. | This is a simultaneous unit in which the equipment necissitates a reciprocal relationship. Since the child understands this and throws it accordingly, the unit is coded 4 for Use of Equipment. If he just threw it randomly, it would be coded a 3. |

| LEVEL | DEFINITION | EXAMPLES | COMMENTS |
|---|---|---|---|
| 4 (continued) | | Letting go of the sides of the slide, Stevie rapidly goes forward down the slide with a smile on his face. | Actually, going down a slide is coded for Level 4 use regardless of whether the child goes down frontward or backward. The movement to the slide, positioning at the top and getting off is routinely coded at Level 3 for use. The child's pleasure and interest is indicated by facial expression or verbalizations. In this example, the presence of the smile would denote appropriate interest and would be coded as Level 4 Intensity. |
| 5 | Child extends materials use beyond task demand in creative or ingenious use. | Jack is sitting on top of the toy sink in the housekeeping area. He has his feet in the place where the basin is supposed to be and he's pretending to drive a car, using the faucet as a steering wheel. | In this example, Jack has created a unique function for this conventional piece of equipment. To determine the extent to which the child uses a material creatively, it is necessary to note verbalizations, play noises or gestures which accompany the interaction with the material. |
| | | Carlo is working on a small wooden car, pretending to fix it using a set of plastic tools. Suddenly he says, "It's exploding. Give me the fire extinguisher." He then picks up a nearby cylindrical block and pretends to squirt it to extinguish the fire. | In this example, the child's verbalizations help to identify how the child uses the various materials that he is working with. |

| LEVEL | DEFINITION | EXAMPLES | COMMENTS |
|---|---|---|---|
| 5 (continued) | | The group is up on the rooftop playground. Albert is trying to ride a big wheel but can't because his right foot doesn't have the strength necessary to push the pedals. He now gets up and puts his right foot on the seat and begins to push it across the roof as if it were a scooter. | Unable to use this piece of equipment as intended, Albert has found a new way to push it, using his available muscle strength. This reflects both planning and the ability to adapt a material spontaneously. |
| | | Richy is in the block corner with three other boys who are involved in a cops and robbers sequence. One of the boys says, "The bad guy is getting away ;he really is something." Richy takes an imaginary string and holds it across the road to catch the bad guy in the plastic car, saying, "I'm going to catch that secret six man." | Ricky has created a dramatic play episode with a group of children and is using imaginary props and pretend objects to create a story. This is also coded for a high level of social interactiveness. The planning of original plays, stories or music is also coded as Level 5 behavior. |
| | | The teacher is holding up some picture cards and the group is supposed to tell her what letter the picture starts with. Tony, however, is looking at the next picture on the teacher's lap, a lamp, and starts saying to himself, "Letter, ladder, look, Larry, leg." | Tony has taken the task as designed by the teacher and spontaneously extended it to create a new task. |
| | Child uses his imagination and creates something unique with unstructured materials or uses imaginary props to extend ongoing dramatic play sequence. | Andrea is working in the woodworking area. She is carefully placing a pine cone in the middle of her diarama, pretending that it is a person who is walking. The pine cone has bits of specks glued onto the top as features. | The child has taken a variety of materials and created a new setting and task. The pine cone is being used as a person rather than as an object to add to a collage. |

Item 1

## WORK SAMPLE

Instructions for Administration and Scoring:

1. Begin with any one of the six materials and randomize the order of presentation for each child.

2. Select a level for each item based upon knowledge of the child's abilities based upon observation and other testing.

3. Based upon child's performance on item presented, move up or down the hierarchical scaling.

4. When scoring item, note child's response as follows on the scoring protocol:

| | | |
|---|---|---|
| Unsuccessful | | - |
| Successful: | with prejudgment | + pre. |
| | with trial and error | + t. and e. |
| | following verbal assistance | + v. |
| | following gestural (non-verbal) assistance | + n.v. |
| | following demonstration | + dem. |

For the Boy-Girl Puzzle and Simplex Puzzle, note child's responses as indicated above on template; then transfer to coding sheet.

Item 2

WORK SAMPLE: Summary of Performance

Name of Child _____

School _____

Date of Birth _____

Date of Testing _____

Examiner _____

| | Ceiling Age Level |
|---|---|
| Bead Abacus | _____ - _____ |
| Montessori Cylinders | _____ |
| Form Sorting Box | _____ |
| Simplex Puzzle | _____ |
| Boy/Girl Puzzle | _____ |
| Face Plaques | _____ |
| | - |
| | x Age Level _____ |

Comments on Performance:

Description of Child During Testing:

Item 3

## WORK SAMPLE

Bead Abacus (Note number for each item)

| | Number | Type of Assist |
|---|---|---|
| 1. Removes balls from poles | | |
| 2. Replaces balls without regard to color | | |
| 3. Replaces balls with regard to color vertically | | |
| 4. Knows color labels | | |
| 5. Replaces balls with regard to color horizontally | | |
| 6. Counting balls | | |
| 7. Knows how many more balls needed on each pole | | |

Comments:

Item 4

## WORK SAMPLE

Form Box

| | 1st | 2nd |
|---|---|---|
| 1. Removes all forms | | |
| 2. Inserts after trial and error | | |
| 3. Inserts with prejudgment | | |
| 4. Inserts after trial and error | | |
| 5. Inserts  with prejudgment | | |
| 6. Inserts with trial and error | | |
| 7. Inserts with prejudgment | | |
| 8. Inserts with trial and error | | |
| 9. Inserts with prejudgment | | |
| 10. Inserts with trial and error | | |
| 11. Inserts with prejudgment | | |
| 12. Inserts all pieces correctly by trial and error | | |
| 13. Inserts all pieces with prejudgment | | |

Comments:

*There are 2 of each form; note child's performance for each.

Item 5

## WORK SAMPLE

### Montessori Cylinders

| | Number | Type of Assist |
|---|---|---|
| 1. Removes cylinders | _____ | _____ |
| 2. Differentiates large from small sizes when asked to remove large/small cylinders | _____ | _____ |
| 3a. When given large cylinder, tries to replace at end with larger openings | _____ | _____ |
| b. When given small cylinder, tries to replace at end with smaller holes | _____ | _____ |
| 4. Replaces correctly<br>a.) With trial and error | _____ | _____ |
| b.) With prejudgment | _____ | _____ |

Comments:

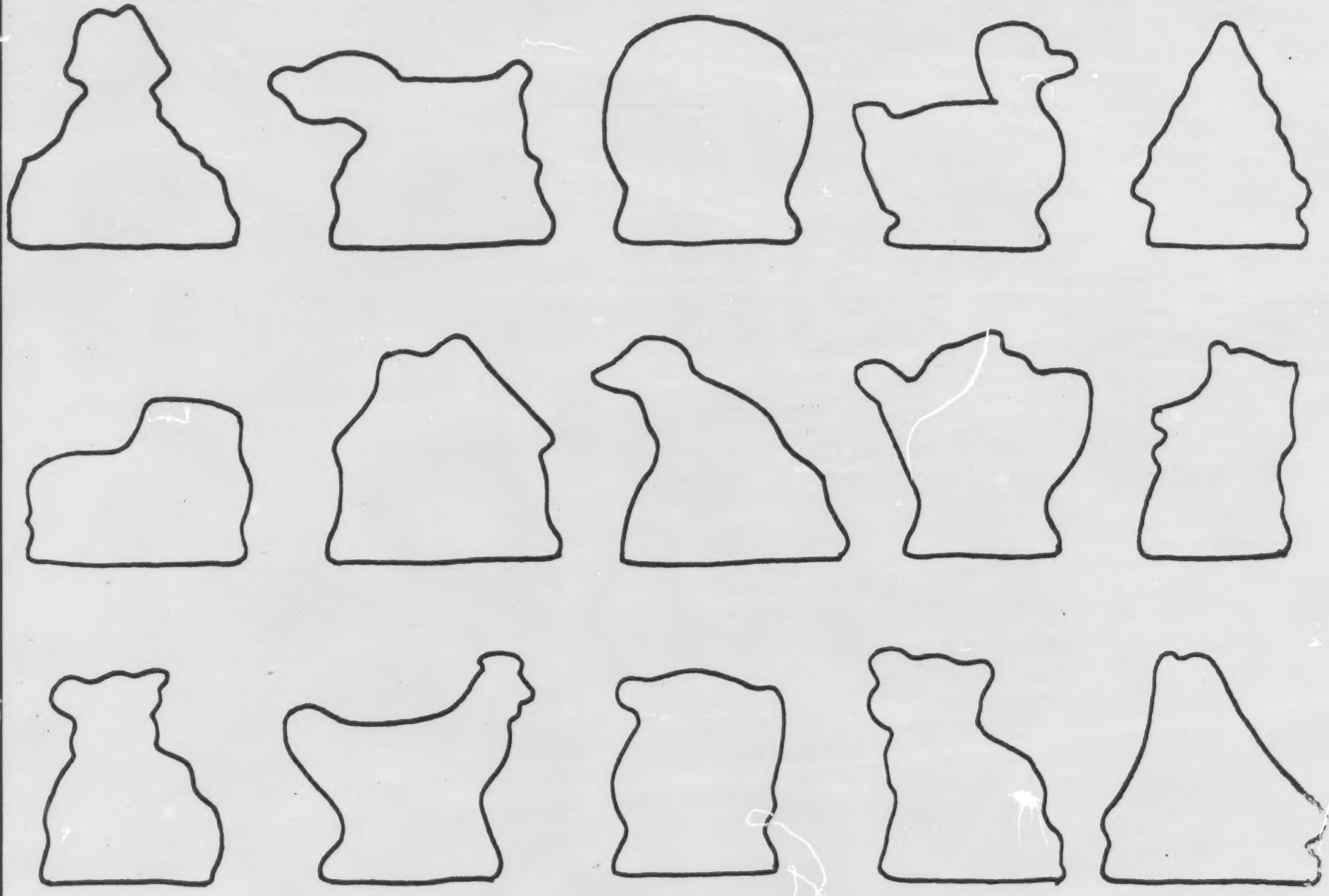
Item 6

WORK SAMPLE

Simplex Puzzle

| | | Number | Type of Assist |
|---|---|---|---|
| 1. | Removes pieces | _____ | _____ |
| 2. | Replaces pieces | _____ | _____ |
| 3. | Labels (List) _____ | _____ | _____ |
| | _____ | | |
| | _____ | | |
| | _____ | | |
| 4. | Groups: Animals (indicate) _____ | _____ | |
| | _____ | | |
| | Things in House _____ | _____ | |
| | _____ | | |
| 5. | Knows function of clock | _____ | _____ |
| | shoe | _____ | _____ |
| | pitcher | _____ | _____ |
| | chair | _____ | _____ |

Comments:



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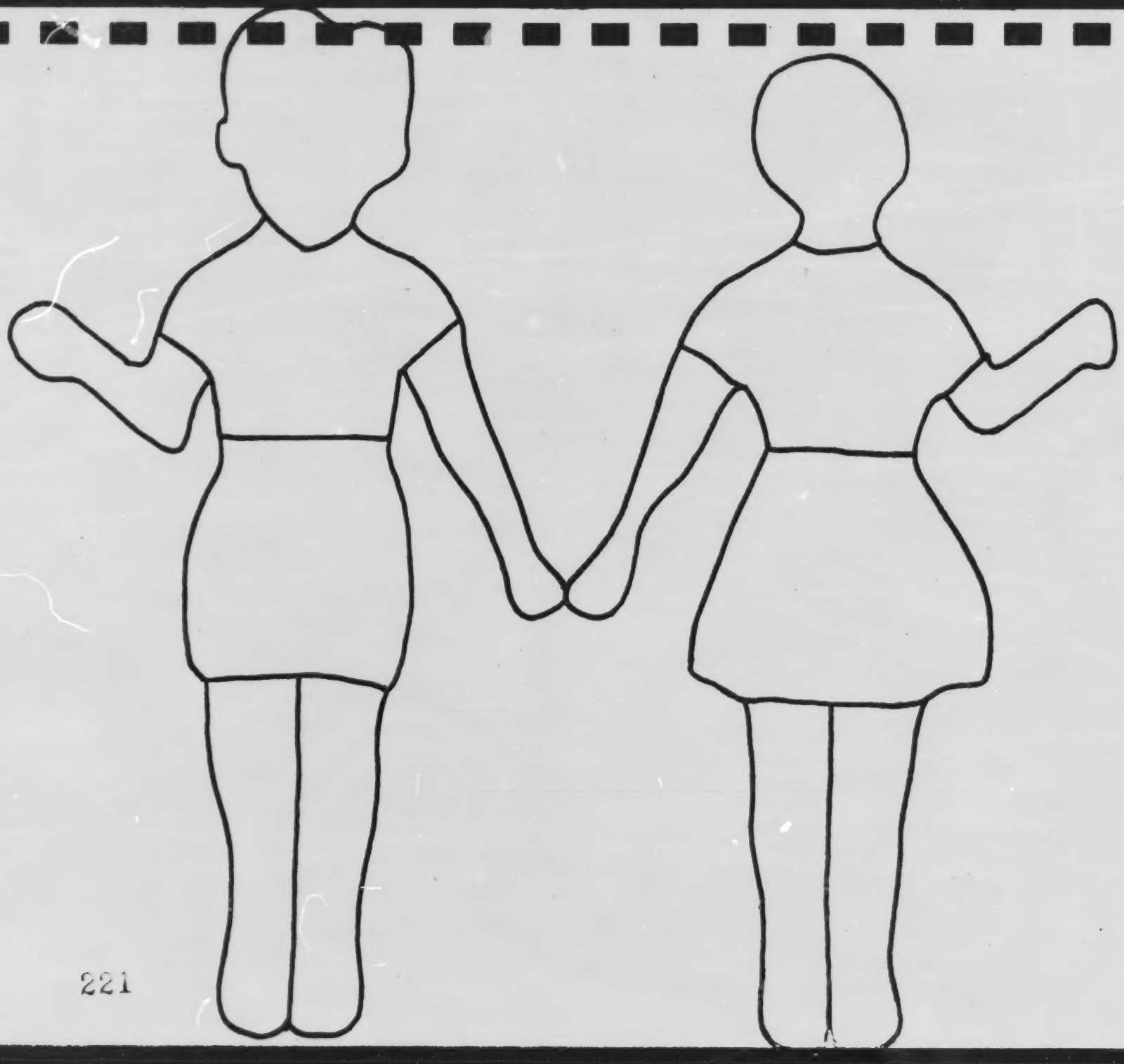
Item 7

## WORK SAMPLE

Boy - Girl Puzzle

| | | B | G |
|---|---|---|---|
| 1. Removes some | | | |
| 2. Removes all (indicate number) | | | |
| 3. Removes and Replaces: | | | |
| a. Faces | Trial and Error | | |
| | Prejudgment | | |
| b. Clothing | Trial and Error | | |
| | Prejudgment | | |
| c. Legs | Trial and Error | | |
| | Prejudgment | | |
| d. Arms | | | |
| Straight | Trial and Error | | |
| | Prejudgment | | |
| Bent | Trial and Error | | |
| e. All | Trial and Error | | |
| | Prejudgment | | |

Comments:



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Item 8

WORK SAMPLE

Face Plaques

| | Score | Type of Assist |
|---|---|---|
| 1. Use manipulatively as undifferentiated blocks of wood. | _____ | _____ |
| 2. Point to eyes upon request. | _____ | _____ |
| 3. Point to eyes, nose and mouth upon request. | _____ | _____ |
| 4. Transfer label to own features and those on plaque. | _____ | _____ |
| 5. Identify closed eye on specific plaque. | _____ | _____ |
| 6. With 2 pairs (four plaques) indicates: | | |
| a. Which is "Sad face"? (mouth ) | _____ | _____ |
| b. Which is "Happy face"? (mouth ) | _____ | _____ |
| 7. Which faces are same of four plaques (2 pairs, all features identical except mouth ( ) | _____ | _____ |
| 8. Which faces are same of four plaques (2 pairs: all features same except one eye closed on one pair, orher pair "regular") | _____ | _____ |
| 9. Which faces are same - 6 plaques with eye and mouth variations, noses the same ( ) ( ) | _____ | _____ |
| 10. Which faces the same - 8 plaques eye directions vary + others above | _____ | _____ |
| 11. Which faces the same - all features vary (10 plaques) | _____ | _____ |

Comments:

Item 9

## WORK SAMPLE

| Bead Abacus (Note number for each item) | Number | Score | Type of Assist |
|---|---|---|---|
| 1. Removes balls from poles | 1 - 3 | 12 | |
| | all | 16 | |
| 2. Replaces balls without regard to color | 1 - 3 | 12 | |
| | all | 24 | |
| 3. Replaces balls with regard to color vertically | 2 | 30 | |
| | all | 36 | |
| 4. Knows color labels | 1 - 3 | 45 | |
| | all | 48 | |
| 5. Replaces balls with regard to color horizontally | all | 42 | |
| 6. Counting balls | | 52 | |
| 7. Knows how many more balls needed on each pole | | 60 | |

Comments

Item 10 V

## WORK SAMPLE

Form Box

| | 1st | 2nd |
|---|---|---|
| 1. Removes all forms | 18 mos | |
| 2. Inserts after trial and error | 18 mos | |
| 3. Inserts with prejudgment | 24 mos. | |
| 4. Inserts after trial and error | 24 mos | |
| 5. Inserts with prejudgment | 30 mos | |
| 6. Inserts with trial and error | 42 | 48 |
| 7. Inserts with prejudgment | 48 | 52 |
| 8. Inserts with trial and error | 36 | |
| 9. Inserts with prejudgment | 36 | 42 |
| 10. Inserts with trial and error | 48 | |
| 11. Inserts with prejudgment | 48 | 54 |
| 12. Inserts all pieces correctly by trial and error | 42 | 48 |
| 13. Inserts all pieces with prejudgment | 54 | |

Comments:

*There are 2 of each form; note child's performance for each.

Item 11

WORK SAMPLE

Montessori Cylinders

| | Number | Score | Type of Assist |
|---|---|---|---|
| 1. Removes cylinders | ____ | 18 | ____ |
| 2. Differentiates large from small sizes when asked to remove large/small cylinders | ____ | 18 | ____ |
| 3a. When given large cylinder, tries to replace at end with larger openings | ____ | 24 | ____ |
| b. When given small cylinder, tries to replace at end with smaller holes | ____ | 24 | ____ |
| 4. Replaces correctly<br>a.) With trial and error | ____ | 38 | ____ |
| b.) With prejudgment | ____ | 42 | ____ |

Comments:

Item 12

WORK SAMPLE

Simplex Puzzle

| | | Number | Type of Assist |
|---|---|---|---|
| 1. Removes pieces | 1-3 | 12 | |
| | all | 18 | |
| 2. Replaces pieces | 1-3 | 24 | |
| | all | 36 | |
| 3. Labels (List) _____ | 1-3 | 24 | |
| _____ | all | 36 | |
| _____ | | | |
| _____ | | | |
| 4. Groups: Animals (indicate) _____ | | 40 | |
| _____ | | | |
| Things in House _____ | | 40 | |
| _____ | | | |
| 5. Knows function of clock | | 48 | |
| shoe | | 48 | |
| pitcher | | 48 | |
| chair | | 48 | |

Comments:

Item 13

## WORK SAMPLE

Boy - Girl Puzzle

| | | B | G |
|---|---|---|---|
| 1. Removes some | | 18-24 mos. | |
| 2. Removes all (indicate number) | | 30 | |
| 3. Removes and Replaces: | | | |
| a. Faces | Trial and Error | 36 | |
| | Prejudgment | 42 | |
| b. Clothing | Trial and Error | 36 | |
| | Prejudgment | 42 | |
| c. Legs | Trial and Error | 42 | |
| | Prejudgment | 48 | |
| d. Arms | | | |
| Straight | Trial and Error | 42 | |
| | Prejudgment | 48 | |
| Bent | Trial and Error | ~~48~~ 54 | |
| | Prejudgment | | |
| e. All | Trial and Error | 48 | |
| | Prejudgment | 56 | |

Comments:

Item 14

WORK SAMPLE

Face Plaques

| | Score (mos.) | Type of Assist |
|---|---|---|
| 1. Use manipulatively as undifferentiated blocks of wood. | 12 | |
| 2. Point to eyes upon request. | 16-18 | |
| 3. Point to eyes, nose and mouth upon request. | 18-nose or eyes only 24 nose, eyes and mouth | |
| 4. Transfer label to own features and those on plaque. | 24 | |
| 5. Identify closed eye on specific plaque. | 30 | |
| 6. With 2 pairs (four plaques) indicates: | | |
| a. Which is "Sad face"? (mouth ) | 36 | |
| b. Which is "Happy face"? (mouth ) | 36 | |
| 7. Which faces are same of four plaques (2 pairs, all features identical except mouth ( ) | 36 | |
| 8. Which faces are same of four plaques (2 pairs: all features same except one eye closed on one pair, orher pair "regular") | 42 | |
| 9. Which faces are same - 6 plaques with eye and mouth variations, noses the same ( ) ( ) | 48 | |
| 10. Which faces the same - 8 plaques eye directions vary + others above | 52 | |
| 11. Which faces the same - all features vary (10 plaques) | 60+ | |

Comments:

TABLE 1

COMPLETE DEMOGRAPHIC DATA: YEAR I

| Child No. | Handicapped (H) Non-Handicapped (NH) | Diagnosis | Sex | CA in months | MA in months | Ethnicity | SES |
|---|---|---|---|---|---|---|---|
| 1 | H | Spina Bifida | M | 56 | 57 | Hispanic | Low |
| 2 | H | Cerebral Palsy | F | 62 | 29 | Black | Low |
| 3 | H | Cerebral Palsy | M | 59 | 60 | Black | Low |
| 4 | H | Cerebral Palsy | F | 68 | 33 | Hispanic | Low |
| 5 | H | Cerebral Palsy | F | 42 | 38 | Black | Middle |
| 6 | H | Cerebral Palsy | F | 75 | 36[1] | Black | Low |
| 7 | H | Spina Bifida | M | 53 | 44 | Black | Low |
| 8[2] | NH | -- | M | 39 | 42 | Hispanic | Low |
| 9 | NH | -- | M | 53 | 62 | White | Low |
| 10 | NH | -- | M | 54 | 53 | Black | Low |
| 11 | NH | -- | M | 45 | 62 | Black | Low |
| 12 | NH | - | F | 54 | 74 | Black | Low |
| 13 | H | Cerebral Palsy | M | 40 | 28 | White | Low |
| 14 | NH | -- | F | 56 | 73 | Black | Low |
| 15 | NH | -- | M | 50 | 74 | White | Middle |
| 16 | NH | -- | F | 59 | 66 | Black | Low |
| 17 | NH | -- | M | 50 | 66 | White | Middle |
| 18 | NH | -- | F | 60 | 75 | White | Middle |
| 19 | NH | -- | M | 67 | 78+[3] | Black | Middle |
| 20 | NH | -- | F | 52 | 56 | White | Middle |
| 21 | NH | -- | F | 64 | 66 | Other | Middle |
| 22 | NH | -- | F | 43 | 57 | Other | Middle |
| 23 | NH | -- | M | 68 | 78+[3] | White | Middle |
| 24 | NH | -- | M | 56 | 78+[3] | White | Middle |

TABLE 1

| Child No. | Handicapped (H) Non-Handicapped (NH) | Diagnosis | Sex | CA in months | MA in months | Ethnicity | SES |
|---|---|---|---|---|---|---|---|
| 25 | H | Arthrogryposis | M | 58 | 55 | White | Middle |
| 26 | H | Cerebral Palsy | F | 75 | 30 | Black | P.A.[4] |
| 27 | NH | -- | F | 44 | 56 | Black | Middle |
| 28 | NH | -- | M | 42 | 52 | White | Low |
| 29 | NH | -- | M | 50 | 62 | Black | Middle |
| 30 | NH | -- | M | 56 | 63 | Black | Middle |
| 31 | NH | -- | M | 50 | 62 | White | P.A.[4] |
| 32 | NH | -- | F | 44 | 60 | Black | Middle |
| 33 | NH | -- | M | 39 | 37 | Black | Middle |
| 34 | NH | -- | F | 45 | 45 | Other | Low |
| 35[5] | H | Cerebral Palsy | F | 34 | 25 | Black | Middle |
| 36[5] | H | Developmental Delay-Motor Impairment | F | 41 | 18 | Black | P.A.[4] |
| 37[5] | H | Cerebral Palsy | M | 56 | 12[1] | Hispanic | Low |
| 38[5] | H | Brain Damage | M | 54 | 23 | White | Middle |
| 39[5] | H | Cerebral Palsy | F | 76 | 20 | Hispanic | P.A.[4] |
| 40[5] | H | Developmental Delay | M | 34 | 32 | Black | P.A.[4] |

Notes:

1. Based on clinical judgment, child untestable
2. Child not included in second period of data collection; transferred to another class
3. Highest possible score on Merrill Palmer Scales of Mental Tests
4. Public Assistance
5. Subjects #35-40 added during second data collection period, Mental Age levels have not yet been obtained.

TABLE 2

Inter-Observer Reliability: Year I

| Pair | Coder | | Source | Direction | Mode | Quality |
|---|---|---|---|---|---|---|
| A-B (9 obs.) | C | $\bar{x}$ | .96 | .91 | .85 | .91 |
| | | range | (.91-.99) | (.83-.96) | (.72-.97) | (.78-.97) |
| | B | $\bar{x}$ | .96 | .91 | .82 | .93 |
| | | range | (.88-.99) | (.82-.97) | (.72-.95) | (.89-.98) |
| | A | $\bar{x}$ | .94 | .91 | .85 | .89 |
| | | range | (.83-.99) | (.86-.96) | (.73-.96) | (.77-.98) |
| A-C (8 obs) | B | $\bar{x}$ | .94 | .89 | .84 | .87 |
| | | range | (.82-.99) | (.82-.99) | (.69-.96) | (.74-.97) |
| | C | $\bar{x}$ | .95 | .90 | .84 | .85 |
| | | range | (.88-.99) | (.82-.99) | (.74-.91) | (.68-.97) |
| | A | $\bar{x}$ | .94 | .90 | .85 | .89 |
| | | range | (.88-.98) | (.83-.98) | (.76-.94) | (.84-.93) |

Table 3a

Number of Children Observed: By Setting

| | SETTINGS | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | SPECIAL | NORMAL | INTEGRATED | | | | | |
| | | | A | B | C | D | E | TOTAL |
| Normal | 0 | 9 | 8 | 8 | 9 | 7 | 9 | 50 |
| Handicapped | 7 | 0 | 1 | 1 | 2 | 1 | 1 | 13 |
| TOTAL | 7 | 9 | 9 | 9 | 11 | 8 | 10 | 63 |

Table 3b

DEMOGRAPHIC DATA, YEAR II
NON-HANDICAPPED CHILDREN

| CHILD # | SETTING | SEX | CA | MA | ETHNIC | SES |
|---|---|---|---|---|---|---|
| ✓ 1 | A | M | 56 | 57 | White | Low |
| 2 | A | F | 58 | 66 | Other | Low |
| 3 | A | M | 53 | 78 | Other | Low |
| 4 | A | M | 53 | * | White | PA |
| 5 | A | F | 52 | 60 | White | Low |
| 6 | A | F | 54 | 73 | Hispanic | Low |
| ✓ 7 | A | F | 57 | 62 | Hispanic | Low |
| 8 | A | M | 56 | 66 | Other | Low |
| 9 | B | F | 39 | 50 | White | Middle |
| 10 | B | F | 45 | 63 | White | Low |
| 11 | B | M | 48 | 76 | Other | Middle |
| ✓ 12 | B | M | 40 | 49 | Black | PA |
| ✓ 13 | B | M | 45 | 55 | Other | Low |
| 14 | B | M | 48 | 58 | Other | Low |
| 15 | B | F | 41 | 57 | Other | Low |
| 16 | B | F | 41 | 51 | Other | Low |
| 17 | C | F | 57 | 71 | Other | Middle |
| 18 | C | F | 45 | 60 | White | Middle |
| 19 | C | F | 53 | 62 | Black | Middle |
| ✓ 20 | C | F | 60 | 71 | White | Middle |
| ✓ 21 | C | M | 48 | 60 | Other | Middle |
| 22 | C | M | 53 | 71 | Black | Middle |
| 23 | C | F | 45 | 61 | White | Middle |
| 24 | C | M | 56 | 78 | White | Middle |
| 25 | C | M | 61 | 78 | Other | Middle |

Table 3b (Continued)

DEMOGRAPHIC DATA, YEAR II
NON-HANDICAPPED CHILDREN

| CHILD # | SETTING | SEX | CA | MA | ETHNIC | SES |
|---|---|---|---|---|---|---|
| 26 | D | F | 58 | 55 | Hispanic | Middle |
| ✓ 27 | D | M | 42 | 47 | White | Middle |
| 28 | D | M | 60 | 74 | White | Middle |
| ✓ 29 | D | F | 43 | 53 | Black | Middle |
| 30 | D | M | 53 | 71 | White | Middle |
| 31 | D | M | 53 | 63 | White | Middle |
| 32 | D | M | 42 | 58 | Hispanic | Low |
| 33 | E | M | 43 | 45 | Black | Middle |
| ✓ 34 | E | M | 33 | 38 | Black | Middle |
| 35 | E | M | 43 | 54 | White | Middle |
| 36 | E | M | 36 | 42 | Other | High |
| ✓ 37 | E | F | 37 | 39 | Black | Low |
| 38 | E | F | 31 | 38 | Black | Middle |
| 39 | E | M | 37 | 55 | White | Middle |
| 40 | E | F | 31 | 33 | White | High |
| 41 | E | M | 29 | 32 | Hispanic | Low |
| 42 | F | M | 59 | 74 | White | Middle |
| 43 | F | F | 60 | 73 | Other | Low |
| 44 | F | M | 58 | 74 | Other | Low |
| 45 | F | F | 58 | 70 | White | Middle |
| 46 | F | F | 55 | 69 | White | Middle |
| 47 | F | F | 59 | 77 | Black | PA |
| 48 | F | M | 51 | 61 | Other | PA |
| 49 | F | F | 57 | 62 | White | PA |
| 50 | F | M | 52 | 56 | Black | PA |

✓ Matched sample of non-handicapped integrated  * NOT AVAILABLE

Table 3c

DEMOGRAPHIC DATA, YEAR II
HANDICAPPED CHILDREN

| CHILD # | SETTING | DIAGNOSIS | SEX | CA | MA | ETHNIC | SES |
|---|---|---|---|---|---|---|---|
| 1 | A | Amputee | M | 47 | 62 | Hispanic | Low |
| 2 | B | C.P. | M | 51 | 34 | Hispanic | Middle |
| 3 | C | Acquired C.P. | F | 58 | 52 | White | Middle |
| 4 | C | Blindness | M | 43 | * | White | Low |
| 5 | D | C.P. | F | 46 | 26 | Black | Middle |
| 6 | E | C.P. | M | 43 | * | Hispanic | Low |
| 7 | G | C.P. | M | 43 | 21 | Hispanic | Middle |
| 8 | G | C.P. | F | 65 | 61 | Hispanic | Middle |
| 9 | G | C.P. | M | 60 | 38 | White | Middle |
| 10 | G | C.P. | M | 64 | 25 | Hispanic | P.A. |
| 11 | G | Spina Bifida | M | 51 | 36 | Hispanic | Low |
| 12 | G | C.P. | M | 40 | 22 | Hispanic | P.C. |
| 13 | G | C.P. | M | 52 | 47 | White | Middle |

* MA not available

Table 4

Spearman Rank Order Correlations of Age Levels on Six Educational Materials with MA and CA

| | Handicapped (N=10) | | Non-handicapped (N=43) | |
|---|---|---|---|---|
| | MA | CA | MA | CA |
| Abacus | .73** | .85** | .60*** | .61*** |
| Formbox | .82** | .61* | .29* | .30* |
| Cylinders | .90** | .66* | .38** | .55*** |
| Simplex | .91*** | .33 | .36** | .35** |
| Boy/Girl | .21 | .04 | .27* | .25* |
| Face Plaques | .62 | -.15 | .40** | .50*** |
| Mean | .92*** | .77** | .60*** | .77*** |

* $p < .05$
** $p < .01$
*** $p < .001$

## Item 1

### PROCEDURE FOR COMPUTING OBSERVER RELIABILITY

Observer reliability was obtained for each paired observation in each of the four dimensions in the following manner (Merrifield, Note 3). Within each dimension, the number of units coded per category was determined and placed into a 2 x k contingency table where the rows (2) each represent one of the coders and where the columns (k) represent the number of categories applicable for a particular dimension. A contingency coefficient was then computed by the following formula:

$$\frac{\chi^2}{n + \chi^2}$$

where: n = number of interactional units, $x^2$ = Chi square statistic based on the particular contingency table. Since the contingency coefficient represented error variance, it was subtraced from one (1) to yield the realiability. That is:

$$\text{observer reliability} = 1 - \frac{\chi^2}{n + \chi^2}$$

Table 5

Observer Reliability for Each Pair of Observers Within Each Dimension

| OBS PAIR | CODER | | SOURCE | DIRECTION | MODE | Quality Soc. Int. | Soc. Recip. | Mat. Int. | Mat. Use |
|---|---|---|---|---|---|---|---|---|---|
| AB (4 obs.) | A | Ave. | .94 | .88 | .85 | .86 | .81 | .82 | .80 |
| | | Range | (.90-.98) | (.82-.93) | (.80-.87) | (.74-.95) | (.67-.95) | (.68-.90) | (.55-.97) |
| | B | Ave. | .96 | .86 | .83 | .93 | .87 | .89 | .94 |
| | | Range | (.91-.97) | (.85-.89) | (.71-.88) | (.84-.97) | (.77-.97) | (.84-.93) | (.93-.94) |
| | C | Ave. | .95 | .83 | .87 | .91 | .66 | .83 | .85 |
| | | Range | (.93-.96) | (.80-.86) | (.83-.90) | (.86-.97) | (.51-.94) | (.77-.93) | (.75-.92) |
| AC (5 obs.) | A | Ave. | .87 | .87 | .82 | .89 | .77 | .88 | .78 |
| | | Range | (.77-.94) | (.67-.98) | (.72-.93) | (.77-.97) | (.64-.90) | (.67-.97) | (.56-.90) |
| | B | Ave. | .90 | .86 | .80 | .91 | .83 | .92 | .88 |
| | | Range | (.85-.98) | (.72-.98) | (.75-.87) | (.71-.99) | (.61-.94) | (.85-1.00) | (.83-.97) |
| | C | Ave. | .93 | .88 | .80 | .86 | .79 | .91 | .81 |
| | | Range | (.85-.98) | (.75-.98) | (.73-.90) | (.69-1.00) | (.52-.91) | (.82-.98) | (.71-.90) |

NOTE: OBS. = Observer
obs. = observations

Table 6

Coder Reliability: Percent Agreement (n=8 Observations)
For Each Pair of Coders by Dimension

| Coding Pair | | SOURCE | DIRECTION | MODE | Quality | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Soc. Int. | Soc. Recip. | Mat. Int. | Mat. Use |
| AB | Ave. | 79 | 91 | 86 | 80 | 84 | 61 | 72 |
| | Range | (58-100) | (74-100) | (76-95) | (67-100) | (71-95) | (33-83) | (44-100) |
| AC | Ave. | 84 | 91 | 87 | 72 | 79 | 60 | 73 |
| | Range | (67-100) | (79-100) | (79-96) | (44-82) | (58-95) | (33-83) | (66-92) |
| BC | Ave. | 80 | 94 | 87 | 73 | 81 | 79 | 80 |
| | Range | (68-100) | (82-100) | (79-96) | (39-100) | (61-93) | (33-100) | (44-100) |

Table 7a

Means and Standard Deviations of Proportions of Total Interactional Units Coded in Each Category of the Dimension of SOURCE

| | | SPEC (n=7) | | MAIN (n=6) | | NCRM (n=9) | | NI (n=10) | |
|---|---|---|---|---|---|---|---|---|---|
| SOURCE | | I | II | I | II | I | II | I | II |
| Self-Generated | $\bar{x}$ | .16 | .12 | .16 | .10 | .13 | .11 | .17 | .12 |
| | SD | .04 | .06 | .06 | .05 | .04 | .02 | .03 | .03 |
| Ongoing | $\bar{x}$ | .43 | .51 | .44 | .53 | .43 | .49 | .50 | .61 |
| | SD | .08 | .07 | .08 | .08 | .04 | .05 | .06 | .06 |
| Returning | $\bar{x}$ | .23 | .20 | .21 | .23 | .25 | .24 | .24 | .17 |
| | SD | .07 | .05 | .05 | .07 | .04 | .06 | .04 | .03 |
| Reactive | $\bar{x}$ | .07 | .06 | .12 | .07 | .06 | .06 | .05 | .05 |
| | SD | .03 | .02 | .04 | .04 | .02 | .02 | .02 | .02 |
| Elicited | $\bar{x}$ | .05 | .06 | .03 | .03 | .06 | .05 | .03 | .03 |
| | SD | .03 | .02 | .02 | .02 | .03 | .02 | .01 | .02 |
| Ong/Elic | $\bar{x}$ | .03 | .03 | .03 | .03 | .03 | .02 | .01 | .004 |
| | SD | .03 | .02 | .02 | .03 | .03 | .02 | .01 | .003 |
| Ret/Elic | $\bar{x}$ | .02 | .02 | .01 | .02 | .03 | .03 | .01 | .01 |
| | SD | .03 | .01 | .01 | .02 | .02 | .03 | .01 | .01 |

Table 7D

Means and Standard Deviations of Proportion of Total Interactional Units
Coded in Each Category of the Dimension of DIRECTION

| | | SPEC (n=7) | | MAIN (n=6) | | NORM (n=9) | | NI (n=10) | |
|---|---|---|---|---|---|---|---|---|---|
| | | I | II | I | II | I | II | I | II |
| DIRECTION | | | | | | | | | |
| MATERIALS | | | | | | | | | |
| Educational Materials | $\bar{x}$ | .22 | .17 | .29 | .40 | .27 | .27 | .33 | .31 |
| | SD | .16 | .12 | .13 | .10 | .09 | .10 | .09 | .05 |
| Educational Equipment | $\bar{x}$ | .09 | .10 | .02 | .03 | .04 | .03 | .04 | .03 |
| | SD | .08 | .10 | .02 | .04 | .05 | .03 | .06 | .04 |
| SOCIAL | | | | | | | | | |
| Child (Normal) | $\bar{x}$ | - | - | .35 | .25 | .34 | .32 | .32 | .38 |
| | SD | - | - | .15 | .15 | .07 | .06 | .10 | .08 |
| Child (Handicapped) | $\bar{x}$ | .23 | .21 | .002 | .001 | - | - | .02 | .04 |
| | SD | .11 | .08 | .004 | .001 | - | - | .03 | .05 |
| Total Child | $\bar{x}$ | .23 | .20 | .35 | .25 | .34 | .32 | .34 | .42 |
| | SD | .11 | .10 | .15 | .06 | .07 | .06 | .09 | .07 |
| Group | $\bar{x}$ | .10 | .10 | .09 | .07 | .12 | .10 | .10 | .11 |
| | SD | .05 | .10 | .07 | .05 | .05 | .04 | .05 | .04 |
| Teacher | $\bar{x}$ | .33 | .39 | .20 | .23 | .19 | .24 | .16 | .11 |
| | SD | .07 | .24 | .11 | .16 | .06 | .07 | .06 | .06 |
| Observer | $\bar{x}$ | .01 | .02 | .04 | .02 | .02 | .01 | .02 | .02 |
| | SD | .01 | .02 | .03 | .02 | .02 | .01 | .02 | .01 |
| Other Adult | $\bar{x}$ | .03 | .02 | .01 | .01 | .03 | .02 | .004 | .01 |
| | SD | .03 | .06 | .01 | .01 | .03 | .02 | .004 | .01 |

Table 7c

Means and Standard Deviations of Proportions of Total Interactional Units Coded in Each Category of the Dimension of MODE

| MODES | | SPEC (n=7) I | SPEC (n=7) II | MAIN (n=6) I | MAIN (n=6) II | NORM (n=9) I | NORM (n=9) II | NI (n=10) I | NI (n=10) II |
|---|---|---|---|---|---|---|---|---|---|
| Vocal Verbal | $\bar{x}$ | .11 | .12 | .06 | .07 | .15 | .20 | .16 | .18 |
| | SD | .10 | .09 | .05 | .05 | .05 | .05 | .07 | .08 |
| Playnoise/ Singing | $\bar{x}$ | .02 | .02 | .02 | .01 | .02 | .01 | .01 | .02 |
| | SD | .01 | .02 | .03 | .01 | .02 | .01 | .01 | .03 |
| Affect | $\bar{x}$ | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 |
| | SD | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 |
| Non-Verbal Gestural | $\bar{x}$ | .08 | .10 | .06 | .08 | .09 | .05 | .05 | .07 |
| | SD | .04 | .04 | .04 | .05 | .03 | .02 | .03 | .03 |
| Facial Expression | $\bar{x}$ | .05 | .07 | .06 | .05 | .03 | .02 | .04 | .03 |
| | SD | .03 | .05 | .02 | .02 | .02 | .01 | .04 | .02 |
| Visual | $\bar{x}$ | .38 | .35 | .37 | .31 | .32 | .40 | .33 | .28 |
| | SD | .10 | .10 | .20 | .18 | .08 | .05 | .08 | .06 |
| Motoric | $\bar{x}$ | .28 | .26 | .36 | .37 | .32 | .24 | .35 | .36 |
| | SD | .12 | .15 | .07 | .04 | .09 | .07 | .10 | .09 |
| Sensory/ Tactile | $\bar{x}$ | .01 | .003 | .01 | .03 | .002 | .001 | .002 | .001 |
| | SD | .01 | .004 | .02 | .04 | .004 | .002 | .002 | .002 |
| Auditory | $\bar{x}$ | .04 | .05 | .02 | .05 | .05 | .05 | .03 | .03 |
| | SD | .02 | .03 | .02 | .07 | .04 | .03 | .02 | .02 |
| None | $\bar{x}$ | .03 | .02 | .03 | .02 | .02 | .02 | .02 | .02 |
| | SD | .02 | .02 | .04 | .02 | .03 | .01 | .01 | .02 |

Table 7d

**Means and Standard Deviations of Proportions of Social Interactional Units Coded in Each Level of SOCIAL INTENSITY and SOCIAL RECIPROCITY**

| QUALITY: | | SPEC (n=7) | | MAIN (n=6) | | NORM (n=9) | | NI (n=10) | |
|---|---|---|---|---|---|---|---|---|---|
| SOCIAL | | I | II | I | II | I | II | I | II |
| INTENSITY | | | | | | | | | |
| Level 1 | $\bar{x}$ | .04 | .02 | .04 | .03 | .03 | .03 | .02 | .02 |
| | SD | .02 | .02 | .06 | .03 | .03 | .02 | .02 | .02 |
| Level 2 | $\bar{x}$ | .56 | .42 | .61 | .47 | .36 | .36 | .36 | .29 |
| | SD | .11 | .14 | .14 | .16 | .03 | .12 | .10 | .10 |
| Level 3 | $\bar{x}$ | .31 | .39 | .32 | .34 | .43 | .44 | .39 | .34 |
| | SD | .08 | .10 | .11 | .06 | .08 | .11 | .09 | .07 |
| Level 4 | $\bar{x}$ | .08 | .14 | .03 | .13 | .17 | .16 | .20 | .28 |
| | SD | .08 | .08 | .01 | .09 | .05 | .09 | .11 | .08 |
| Level 5 | $\bar{x}$ | .01 | .02 | .00 | .03 | .01 | .01 | .02 | .08 |
| | SD | .02 | .03 | - | .05 | .02 | .01 | .04 | .16 |
| SOCIAL | | | | | | | | | |
| RECIPROCITY | | | | | | | | | |
| Level 0 | $\bar{x}$ | .43 | .39 | .47 | .39 | .31 | .38 | .37 | .31 |
| | SD | .08 | .15 | .23 | .21 | .08 | .12 | .10 | .09 |
| Level 1 | $\bar{x}$ | .07 | .05 | .08 | .05 | .08 | .05 | .06 | .04 |
| | SD | .03 | .03 | .05 | .03 | .08 | .01 | .02 | .03 |
| Level 2 | $\bar{x}$ | .27 | .22 | .26 | .22 | .26 | .26 | .21 | .18 |
| | SD | .07 | .06 | .09 | .06 | .05 | .07 | .07 | .05 |
| Level 3 | $\bar{x}$ | .19 | .26 | .17 | .22 | .28 | .22 | .24 | .22 |
| | SD | .06 | .11 | .14 | .11 | .08 | .07 | .06 | .06 |
| Level 4 | $\bar{x}$ | .04 | .07 | .02 | .08 | .06 | .10 | .11 | .19 |
| | SD | .06 | .06 | .01 | .07 | .03 | .07 | .08 | .09 |
| Level 5 | $\bar{x}$ | .01 | .01 | .00 | .03 | .01 | .004 | .02 | .05 |
| | SD | .01 | .02 | - | .05 | .01 | .01 | .03 | .13 |

Table 7e

Means and Standard Deviations of Proportions of Material Interactional Units Coded in Each Level of MATERIAL INTENSITY and MATERIAL USE

| QUALITY | | SPEC (n=7) | | MAIN (n=6) | | NORM (n=9) | | NI (n=10) | |
|---|---|---|---|---|---|---|---|---|---|
| MATERIAL | | I | II | I | II | I | II | I | II |
| INTENSITY | | | | | | | | | |
| Level 1 | $\bar{x}$ | :002 | :004 | :003 | :002 | :004 | :001 | :003 | :00 |
| | SD | .005 | .01 | .005 | .004 | .01 | .003 | .01 | - |
| Level 2 | $\bar{x}$ | .23 | .11 | .33 | .11 | .15 | .07 | .14 | .06 |
| | SD | .19 | .10 | .14 | .08 | .11 | .05 | .06 | .06 |
| Level 3 | $\bar{x}$ | .27 | .28 | .32 | .29 | .26 | .20 | .24 | .17 |
| | SD | .16 | .08 | .13 | .17 | .15 | .08 | .12 | .06 |
| Level 4 | $\bar{x}$ | .44 | .50 | .32 | .51 | .52 | .61 | .52 | .58 |
| | SD | .27 | .12 | .13 | .21 | .15 | .14 | .12 | .13 |
| Level 5 | $\bar{x}$ | .06 | .11 | .03 | .08 | .06 | .12 | .10 | .18 |
| | SD | .12 | .16 | .05 | .06 | .04 | .12 | .09 | .06 |
| MATERIAL | | | | | | | | | |
| Use | | | | | | | | | |
| Level 0 | $\bar{x}$ | .10 | .07 | .13 | .07 | .14 | .13 | .06 | .03 |
| | SD | .09 | .01 | .10 | .06 | .07 | .11 | .04 | .04 |
| Level 1 | $\bar{x}$ | .002 | .004 | .01 | .002 | .004 | .003 | .002 | .01 |
| | SD | .005 | .01 | .01 | .004 | .01 | .01 | .005 | .02 |
| Level 2 | $\bar{x}$ | .29 | .25 | .37 | .29 | .19 | .19 | .26 | .17 |
| | SD | .16 | .13 | .08 | .16 | .11 | .12 | .06 | .09 |
| Level 3 | $\bar{x}$ | .33 | .38 | .29 | .40 | .27 | .27 | .31 | .27 |
| | SD | .10 | .20 | .09 | .12 | .13 | .11 | .11 | .11 |
| Level 4 | $\bar{x}$ | .24 | .31 | .20 | .20 | .37 | .40 | .34 | .48 |
| | SD | .15 | .19 | .11 | .14 | .16 | .14 | .13 | .10 |
| Level 5 | $\bar{x}$ | .03 | .00 | .00 | .03 | .02 | .01 | .05 | .04 |
| | SD | .08 | - | - | .06 | .02 | .02 | .09 | .03 |

Table 7f

Means and Standard Deviations of Proportions of Social and Material Interactional Units Categorized into Combined Levels of QUALITY

| | | SPEC (n=7) | | MAIN (n=6) | | NORM (n=9) | | NI (n=10) | |
|---|---|---|---|---|---|---|---|---|---|
| SOCIAL INTENSITY | | I | II | I | II | I | II | I | II |
| Level 1 and 2 | $\bar{x}$ | .60 | .44 | .66 | .50 | .39 | .39 | .35 | .31 |
| | SD | .13 | .15 | .12 | .15 | .09 | .12 | .15 | .11 |
| Level 4 and 5 | $\bar{x}$ | .09 | .16 | .03 | .16 | .18 | .17 | .18 | .36 |
| | SD | .09 | .11 | .02 | .10 | .05 | .09 | .12 | .15 |
| SOCIAL RECIPROCITY | | | | | | | | | |
| Level 1 and 2 | $\bar{x}$ | .34 | .27 | .34 | .27 | .33 | .30 | .26 | .22 |
| | SD | .07 | .08 | .10 | .06 | .07 | .07 | .11 | .07 |
| Level 4 and 5 | $\bar{x}$ | .05 | .08 | .02 | .11 | .07 | .10 | .09 | .25 |
| | SD | .07 | .09 | .01 | .07 | .04 | .07 | .08 | .15 |
| MATERIAL INTENSITY | | | | | | | | | |
| Level 1 and 2 | $\bar{x}$ | .23 | .11 | .33 | .12 | .16 | .07 | .12 | .06 |
| | SD | .19 | .11 | .13 | .09 | .11 | .05 | .06 | .06 |
| Level 4 and 5 | $\bar{x}$ | .50 | .65 | .34 | .59 | .58 | .73 | .58 | .77 |
| | SD | .26 | .10 | .17 | .25 | .14 | .10 | .20 | .09 |
| MANUAL USE | | | | | | | | | |
| Level 1 and 2 | $\bar{x}$ | .29 | .25 | .38 | .28 | .20 | .19 | .26 | .17 |
| | SD | .16 | .13 | .08 | .19 | .11 | .12 | .06 | .08 |
| Level 4 and 5 | $\bar{x}$ | .27 | .43 | .20 | .19 | .39 | .36 | .36 | .52 |
| | SD | .18 | .27 | .11 | .14 | .15 | .20 | .13 | .10 |

Item I

ATDP - FORM O

No. _____ 3-9/10/57

ATDP SCALE

Mark each statement in the left margin according to how much you agree or disagree with it. Please mark every one. Write +1, +2, +3 or -1, -2, -3: depending on how you feel in each case.

+3: I AGREE VERY MUCH
+2: I AGREE PRETTY MUCH
+1: I AGREE A LITTLE
-1: I DISAGREE A LITTLE
-2: I DISAGREE PRETTY MUCH
-3: I DISAGREE VERY MUCH

_____ 1. Parents of disabled children should be less strict than other parents.

_____ 2. Physically disabled persons are just as intelligent as non-disabled ones.

_____ 3. Disabled people are usually easier to get along with than other people.

_____ 4. Most disabled people feel sorry for themselves.

_____ 5. Disabled people are the same as anyone else.

_____ 6. There shouldn't be special schools for disabled children.

_____ 7. It would be best for disabled persons to live and work in special communities.

_____ 8. It is up to the government to take care of disabled persons.

_____ 9. Most disabled people worry a great deal.

_____ 10. Disabled people should not be expected to meet the same standards as non-disabled people.

_____ 11. Disabled people are as happy as non-disabled ones.

_____ 12. Severely disabled people are no harder to get along with than those with minor disabilities.

_____ 13. It is almost impossible for a disabled person to lead a normal life.

_____ 14. You should not expect too much from disabled people.

_____ 15. Disabled people tend to keep to themselves much of the time.

_____ 16. Disabled people are more easily upset than non-disabled people.

_____ 17. Disabled persons cannot have a normal social life.

_____ 18. Most disabled people feel that they are not as good as other people.

_____ 19. You have to be careful of what you say when you are with disabled people.

_____ 20. Disabled people are often grouchy.

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Item 2

PARENT ATTITUDE SURVEY

Instructions

We are interested in finding out how parents feel about their children's preschool program. On the following pages you will find statements of ideas and attitudes about preschool children and preschool programs. There are many different opinions about this subject. People agree with some of these statements and disagree with others. We would like to know what you think about each one. Your opinions will be kept confidential and are for research purposes only. They will not be shared with the staff of your child's school. There are no right or wrong answers; we are interested only in your opinions. Please make a choice for every statement.

At the right of each statement are six choices as follows:

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Strongly Agree | Agree | Not sure but tend to agree | Not sure but tend to disagree | Disagree | Strongly Agree |

Please put a circle around the choice that comes closest to how you feel about the statement. Here is an example:

All Children like to watch television. 1 2 3 4 5 6

If you strongly agree with the statement, circle (1); if you are not sure but tend to disagree, circle (4).

It would be very helpful if you answer all the items. Thank you for your cooperation.

| 1 Strongly Agree | 2 Agree | 3 Not sure but Tend to Agree | 4 Not sure but Tend to Disagree | 5 Disagree | 6 Strongly Disagree |
|---|---|---|---|---|---|

| | | |
|---|---|---|
| 1. | Preschool programs make children stronger physically. | 1 2 3 4 5 6 |
| 2. | Even children who are considered to be normal may have special needs. | 1 2 3 4 5 6 |
| 3. | Play is a way of learning for children. | 1 2 3 4 5 6 |
| 4. | Children who are physically handicapped need to learn how to get along in the world the way it is. | 1 2 3 4 5 6 |
| 5. | My child is often very upset when he/she comes home from school. | 1 2 3 4 5 6 |
| 6. | Parents of physically handicapped children should pay for the additional services their child needs. | 1 2 3 4 5 6 |
| 7. | I worry about whether my child is getting enough attention from the teacher. | 1 2 3 4 5 6 |
| 8. | It is more important for preschool children to play together than to learn colors and numbers. | 1 2 3 4 5 6 |
| 9. | The other children make fun of my child. | 1 2 3 4 5 6 |
| 10. | Children who are physically handicapped should be in special classes with children like themselves. | 1 2 3 4 5 6 |
| 11. | Some children need to be protected more than others. | 1 2 3 4 5 6 |
| 12. | If another child attacks my child, I feel my child should fight back. | 1 2 3 4 5 6 |
| 13. | When my child comes home from preschool he/she talks to me about the other children in the classroom. | 1 2 3 4 5 6 |
| 14. | The other children tease my child a lot. | 1 2 3 4 5 6 |
| 15. | Preschool programs should focus on making children independent. | 1 2 3 4 5 6 |
| 16. | All children in the same classroom should be learning the same schools. | 1 2 3 4 5 6 |
| 17. | My child's intelligence level (IQ) will increase because he/she is in preschool. | 1 2 3 4 5 6 |

| 1 Strongly Agree | 2 Agree | 3 Not sure but Tend to Agree | 4 Not sure but Tend to Disagree | 5 Disagree | 6 Strongly Disagree |
|---|---|---|---|---|---|

18. I don't worry about my child picking up odd behaviors from other children in the classroom because he/she will probably outgrow them. 1 2 3 4 5 6

19. Children who are physically handicapped learn better in classrooms with normal children. 1 2 3 4 5 6

20. Preschool programs focus on teaching children self-help skills. 1 2 3 4 5 6

21. Children who are physically handicapped should be in classrooms with normal children only for certain activities. 1 2 3 4 5 6

22. My child gets pushed around a lot by the other children in the classroom. 1 2 3 4 5 6

23. If my child gets into a fight with another child in school, the teacher should let them settle it by themselves. 1 2 3 4 5 6

24. My child needs me to stay with him/her at school. 1 2 3 4 5 6

25. Teachers should reward children for doing their work regardless of whether they do it well or not. 1 2 3 4 5 6

26. There should be more teachers in my child's school. 1 2 3 4 5 6

27. I fear that my child will imitate the odd behaviors of other children in his/her school. 1 2 3 4 5 6

28. My child spends most of his/her time in the classroom playing with toys by himself/herself. 1 2 3 4 5 6

29. My child is more independent than the other children. 1 2 3 4 5 6

30. The most important thing children learn in the preschool is how to get along with people. 1 2 3 4 5 6

31. Children who are physically handicapped are more comfortable in classes with children who are like themselves. 1 2 3 4 5 6

32. My child really enjoys the preschool. 1 2 3 4 5 6

33. The other children seem to be making more progress in school than my child. 1 2 3 4 5 6

| 1 Strongly Agree | 2 Agree | 3 Not sure but Tend to Agree | 4 Not sure but Tend to Disagree | 5 Disagree | 6 Strongly Disagree |
|---|---|---|---|---|---|

34. Learning the alphabet, colors, and numbers in school is more important than learning to get along with other children in the class. 1 2 3 4 5 6

35. Children who are physically handicapped should get the special additional attention they need even in a normal setting. 1 2 3 4 5 6

36. Children who are physically handicapped need special toys and equipment so they can learn better. 1 2 3 4 5 6

37. When my child is in school, he/she does not like to share with other children. 1 2 3 4 5 6

38. My child needs a lot of attention from the teacher. 1 2 3 4 5 6

39. Preschool programs make children more sociable. 1 2 3 4 5 6

40. Sometimes my child doesn't want to go to school. 1 2 3 4 5 6

41. Children who are physically handicapped need specially designed classrooms. 1 2 3 4 5 6

42. Preschool will make my child more intelligent. 1 2 3 4 5 6

43. My child talks more in school than he/she does at home. 1 2 3 4 5 6

44. Normal children get less teacher attention if there are physically handicapped children in their classroom. 1 2 3 4 5 6

45. My child gets upset in school. 1 2 3 4 5 6

46. I am afraid that my child will get hurt in school. 1 2 3 4 5 6

47. When my child comes home from preschool he/she tells me what he/she did there. 1 2 3 4 5 6

Item 3a

SEMI-STRUCTURED INTERVIEW
FOR PARENTS OF HANDICAPPED CHILDREN

Format of questions and type of information to be given to and sought from Parent(s) of Children in Study

First, the purpose of this (and subsequent) taped interviews should be explained to you, the parents. We need your help when working with your child. We can benefit from your knowledge of your child. You know what his/her strengths are (what he/she is good at) as well as your feelings and concerns about his/her behavior or development that heeds extra encouragement or more stress. Your knowledge of your child helps us to understand him/her better and to design an educational program that will look at and possibly concentrate on the particular areas of your child's development (social, language, mental, physical, etc.) which you and we believe need extra help. At the same time, we'll try to use your child's best abilities to encourage him to try to do things he doesn't do as well as we would like.

Tell me (the interviewer) something about your child:

1. What is he/she like? Is he/she easy to manage (easy to get along with)? Or is he/she difficult to live with - demanding a lot of your attention - hard to please or satisfy?

2. Is he/she the only child or are there other children in the family? Older? Younger? Ages of all will help.

3. How would you describe your child's development at this point? Compare him to either other children in the family (at his age) or other children of your friends of the same age. Are there any particular problems you have with him or her?

4. Let's concentrate on information about

   a. What and when were his/her first words spoken? Single words - can you name them? Does he use combinations of words? Short sentences? Can you give an example of his speech? Does he/she understand you? Does he/she follow directions? Simple directions? More complicated directions?

   b. (1) What are his/her favorite toys?
      (2) How does your child play with toys?
      (3) Can he stay and play with a toy for a good length of time?
      (4) What does he/she do with them?
      (5) Can he/she complete what is started?
      (6) Does he/she get upset easily if something is hard to do?
      (7) Do you (or your husband/wife) need to help your child in his/her play? Or can he/she play alone and be satisfied?

c. How does he/she play with other children (or with brothers and sisters, if there are siblings)?
Do they play together or rather play side by side?
Can he/she share materials and toys with others? All the time or part of the time?

d. What happens when there is a disagreement (fight)? Does he/she hold his own - or give up easily? Hit? Cry? Call for help from you?

5. How much time are you able to spare to play with your child? Does your husband/family have time to play with him/her? What do you/they (and other members of the family? do together? How do you get along together?

6. Is there a difference in how he/she reacts to you, your husband, grandparents? Can he/she accept "no" for an answer? Does he/she try to get "his/her way" by trying the other parent when one of you say "no" to a request or action?

7. Has your child stayed with others? - a baby sitter, other members of your family? Is it difficult for your child to be apart from you?

8. What do you want/expect from the educational program he/she's in now? What abilities/skills would you hope your child would learn that he/she doesn't have now or do <u>well</u> now?

9. Do you have any feelings or concerns about your child being in an integrated ("mainstream") classroom?

10. Are you concerned that the "normal" children in the classroom may upset your child by "making fun" of or copying his/her particular movements or speech or ways in which he/she is different?

11. Do you think there are enough staff in the classroom to teach both the larger group of "normal" Children plus the mainstreamed handicapped children?
Do you think your child needs more than the usual amount of teacher attention to be able to do as well as he/she can do? Will this cut down the amount of time available to the other children?
Do you feel more teachers would be needed?

12. Do you think the combination of different children ("normal" and "handicapped") will help or interfere with your child's educational program?

13. Do you think the parents of the "normal" children will be upset if your child receives the extra attention he/she may need?

14. Do you feel comfortable or anxious (or both) when watching your child at school in contrast to the other children without handicapping condition?

15. Do you feel comfortable or uncomfortable when speaking to the parents of "normal" children? Do you feel more comfortable when speaking to parents of other children who are handicapped?

16. Do you think parents of "normal" children are comfortable when watching your child with his/her problems in contrast to their "normal" children? Do you think they are comfortable with you or perhaps feel uncomfortable in that they do not have the same problems as you? Or, do you think that it makes them feel good in that all the children are being brought together in the "mainstream" classroom?

17. If you were able to make the choice, would you prefer your child to be in a class with (a) all handicapped children, or (b) an integrated, "mainstreamed" class?

Item 3b

SEMI-STRUCTURED INTERVIEW
FOR PARENTS OF NORMAL CHILDREN

Format of questions and type of information to be given to and sought from Parent(s) of Children in Study

First, the purpose of this (and subsequent) taped interviews should be explained to you, the parents. We need your help when working with your child. We can benefit from your knowledge of your child. You know what his/her strengths are (what he/she is good at) as well as your feelings and concerns about his/her behavior or development that needs extra encouragement or more stress. Your knowledge of your child helps us to understand him/her better and to design an educational program that will look at and possibly concentrate on the particular areas of your child's development (social, language, mental, physical, etc.) which you and we believe need extra help. At the same time, we'll try to use your child's best abilities to encourage him/her to try to do things he/she doesn't do as well as we would like.

Tell me (the interviewer) something about your child:

1. What is he/she like? Is he/she easy to manage (easy to get along with)? Or is he/she difficult to live with - demanding a lot of your attention - hard to please or satisfy?

2. Is he/she the only child or are there other children in the family? Older? Younger? Ages of all will help.

3. How would you describe your child's development at this point? Compare him to either other children in the family (at his age) or other children of your friends of the same age. Are there any personal problems you have with him/her?

4. Let's concentrate on information about

   a) What and when were his/her first words spoken? Single words - can you name them? Does he use combinations of words? Short sentences? Can you give an example of his speech? Does he/she understand you? Does he/she follow directions? Simple directions? More complicated directions?

   b) (1) What are his/her favorite toys?
      (2) How does your child play with toys?
      (3) Can he stay and play with a toy for a good length of time?
      (4) What does he/she do with them?
      (5) Can he/she complete what is started?
      (6) Does he/she get upset easily if something is hard to do?
      (7) Do you (or your husband/wife) need to help your child in his/her play? Or can he/she play alone and be satisfied?

   c) How does he/she play with other children (or with brothers and sisters, if there are siblings)?

Do they play together or rather play side by side?
Can he/she share materials and toys with others? All the time or part of the time?

d) What happens when there is a disagreement (fight)? Does he/she hold his own - or give up easily? Hit? Cry? Call for help from you?

5. How much time are you able to spare to play with your child? Does your husband/family have time to play with him/her? What do you/they (and other members of the family) do together? How do you get along together?

6. Is there a difference in how he/she reacts to you, your husband, grandparents? Can he/she accept "no" for an answer? Does he/she try to get "his/her way" by trying the other parent when one of you say "no" to a request or action?

7. Has your child stayed with others? - a baby sitter, other members of your family? Is it difficult for your child to be apart from you?

8. What do you want/expect from the educational program he/she's in now? What abilities/skills would you hope your child would learn that he/she doesn't have now or do <u>well</u> now?

9. Do you have any feelings or concerns about your child being in an integrated ("mainstreamed") classroom?

10. Are you concerned that your child will copy any "special" actions and reactions (if there are any) of the handicapped youngsters - speech, walking pattern/behavior?

11. Do you think there are enough staff in your child's classroom? Enough if handicapped children are added? Do you feel that more time is needed by the handicapped children with special problems? Do you think this might cut down or reduce the time of teachers available for your child?

12. How do you feel about this?

13. Do you think the combination of different children ("normal" and "handicapped") will interfere with your child's educational program?

14. Do you feel comfortable or anxious (or both) when seeing children with obvious handicaps (physical and/or mental)?

15. Do you feel comfortable or uncomfortable when speaking to the parents of children who have so many problems?

16. Do you think the parents of handicapped children are (or can be) comfortable when seeing all the other "normal" children in the class in contrast to their own handicapped child? Do you think it's hard for them? Or, do you think it makes them feel good in that their children are being treated equally - when placed in a "mainstreamed" classroom?

17. If you were able to make the choice, would you prefer your child to be in a class with (a) all normal children, (b) integrated "mainstreamed" class?

Table 1

PARENT ATTITUDE SURVEY -- FIRST YEAR DATA

| | Parents of Handicapped Children | | | Parents of Non-Handicapped Children | | |
|---|---|---|---|---|---|---|
| | % Agree | % Disagree | N | % Agree | % Disagree | N |
| 1.* Preschool programs make children stronger physically. | 100 | 0 | 9 | 82 | 18 | 22 |
| 2. Even children who are considered to be normal may have special needs. | 100 | 0 | 9 | 100 | 0 | 22 |
| 3. Play is a way of learning for children. | 100 | 0 | 9 | 100 | 0 | 23 |
| 4. Children who are physically handicapped need to learn how to get along in the world the way it is. | 89 | 11 | 9 | 87 | 13 | 23 |
| 5.* My child is often very upset when he/she comes home from school. | 0 | 100 | 9 | 13 | 87 | 23 |
| 6. Parents of physically handicapped children should pay for the additional services their child needs. | 11 | 89 | 9 | 13 | 87 | 23 |
| 7. I worry about whether my child is getting enough attention from the teacher. | 11 | 89 | 9 | 26 | 74 | 23 |
| 8.* It is more important for preschool children to play together than to learn colors and numbers. | 33 | 67 | 9 | 52 | 48 | 23 |
| 9. The other children make fun of my child. | 11 | 89 | 9 | 4 | 96 | 23 |
| 10. Children who are physicall handicapped should be in special classes with children like themselves. | 22 | 78 | 9 | 17 | 83 | 23 |
| 11. Some children need to be protected more than others. | 78 | 22 | 9 | 87 | 13 | 23 |
| 12.* If another child attacks my child, I feel my child should fight back. | 78 | 22 | 9 | 64 | 36 | 22 |
| 13. When my child comes home from preschool he/she talks to me about the other children in the classroom. | 75 | 25 | 8 | 83 | 17 | 23 |

| | Parents of Handicapped Children | | | Parents of Non-Handicapped Children | | |
|---|---|---|---|---|---|---|
| | % Agree | % Disagree | N | % Agree | % Disagree | N |
| 14. The other children tease my child a lot. | 11 | 89 | 9 | 4 | 96 | 23 |
| 15.* Preschool programs should focus on making children independent. | 78 | 22 | 9 | 61 | 39 | 23 |
| 16. All children in the same classroom should be learning the same skills. | 33 | 67 | 9 | 29 | 71 | 21 |
| 17.* My child's intelligence level (IQ) will increase because he/she is in preschool. | 89 | 11 | 9 | 65 | 35 | 23 |
| 18. I don't worry about my child picking up odd behaviors from other children in the classroom because he/she will probably outgrow them. | 88 | 13 | 8 | 83 | 17 | 23 |
| 19.* Children who are physically handicapped learn better in classrooms with normal children. | 50 | 50 | 8 | 83 | 17 | 23 |
| 20.* Preschool programs focus on teaching children self-help skills. | 100 | 0 | 8 | 87 | 13 | 23 |
| 21.* Children who are physically handicapped should be in classrooms with normal children only for certain activities. | 50 | 50 | 8 | 22 | 78 | 23 |
| 22. My child gets pushed around a lot by the other children in the classroom. | 13 | 88 | 8 | 9 | 91 | 23 |
| 23. If my child gets into a fight with another child in school, the teacher should let them settle it by themselves. | 13 | 88 | 8 | 17 | 83 | 23 |
| 24. My child needs me to stay with him/her at school. | 0 | 100 | 8 | 9 | 91 | 23 |
| 25. Teachers should reward children for doing their work regardless of whether they do it well or not. | 50 | 50 | 8 | 57 | 43 | 23 |
| 26.* There should be more teachers in my child's school. | 25 | 75 | 8 | 36 | 64 | 22 |
| 27.* I fear that my child will imitate the odd behaviors of other children in his/her school. | 0 | 100 | 8 | 30 | 70 | 23 |

| | Parents of Handicapped Children | | | Parents of Non-Handicapped Children | | |
|---|---|---|---|---|---|---|
| | % Agree | % Disagree | N | % Agree | % Disagree | N |
| 28. My child spends most of his/her time in the classroom playing with toys by himself/herself. | 13 | 88 | 8 | 9 | 91 | 22 |
| 29. My child is more independent than the other children. | 25 | 75 | 8 | 32 | 68 | 22 |
| 30. * The most important thing children learn in the preschool is how to get along with people. | 100 | 0 | 8 | 87 | 13 | 23 |
| 31. * Children who are physically handicapped are more comfortable in classes with children who are like themselves. | 63 | 38 | 8 | 43 | 57 | 23 |
| 32. My child really enjoys the preschool. | 100 | 0 | 8 | 100 | 0 | 23 |
| 33. The other children seem to be making more progress in school than my child. | 0 | 100 | 8 | 10 | 90 | 21 |
| 34. * Learning the alphabet, colors and numbers in school is more important than learning to get along with other children in the class. | 22 | 78 | 9 | 5 | 95 | 22 |
| 35. Children who are physically handicapped should get the special additional attention they need even in a normal setting. | 78 | 22 | 9 | 82 | 18 | 22 |
| 36. Children who are physically handicapped need special toys and equipment so they can learn better. | 67 | 33 | 9 | 76 | 24 | 21 |
| 37. * When my child is in school, he/she does not like to share with other children. | 11 | 89 | 9 | 36 | 64 | 22 |
| 38. * My child needs a lot of attention from the teacher. | 50 | 50 | 8 | 38 | 62 | 21 |
| 39. * Preschool programs make children more sociable. | 89 | 11 | 9 | 100 | 0 | 22 |
| 40. Sometimes my child doesn't want to go to school. | 22 | 78 | 9 | 27 | 73 | 22 |

| | Parents of Handicapped Children | | | Parents of Non-Handicapped Children | | |
|---|---|---|---|---|---|---|
| | % Agree | % Disagree | N | % Agree | % Disagree | N |
| 43. Children who are physically handicapped need specially designed classrooms. | 33 | 67 | 9 | 68 | 32 | 22 |
| 44. Preschool will make my child more intelligent. | 67 | 33 | 9 | 59 | 41 | 22 |
| 45. My child talks more in school than he/she does at home. | 11 | 89 | 9 | 10 | 90 | 20 |
| 46. Normal children get less teacher attention if there are physically handicapped children in their classroom. | 0 | 100 | 9 | 18 | 82 | 22 |
| 45. My child gets upset in school | 0 | 100 | 9 | 10 | 90 | 20 |
| 46. I am afraid that my child will get hurt in school. | 11 | 89 | 9 | 5 | 95 | 22 |
| 47. When my child comes home from preschool he/she tells me what he/she did there. | 100 | 0 | 8 | 68 | 32 | 22 |

* Denotes more than 10% difference between parents of handicapped and non-handicapped children.

Table 2

PARENT ATTITUDE SURVEY -- PERCENT AGREE/DISAGREE
YEAR II

| | Parents of Handicapped Children | | | Parents of Non-Handicapped Children | | |
|---|---|---|---|---|---|---|
| | % Agree | % Disagree | N | % Agree | % Disagree | N |
| 1. Preschool programs make children stronger physically. | 80 | 20 | 10 | 83 | 18 | 40 |
| 2. Even children who are considered to be normal may have special needs. | 91 | 9 | 11 | 97 | 2 | 40 |
| 3. Play is a way of learning for children. | 90 | 10 | 10 | 97 | 2 | 40 |
| 4. Children who are physically handicapped need to learn how to get along in the world the way it is. | 100 | 0 | 11 | 95 | 5 | 40 |
| 5. My child is often very upset when he/she comes home from school. | 9 | 91 | 11 | 2 | 97 | 40 |
| 6. Parents of physically handicapped children should pay for the additional services their child needs. | 18 | 82 | 11 | 15 | 85 | 40 |
| 7. I worry about whether my child is getting enough attention from the teacher. | 50 | 50 | 10 | 25 | 75 | 40 |
| 8. It is more important for preschool children to play together than to learn colors and numbers. | 55 | 45 | 11 | 70 | 30 | 40 |
| 9. The other children make fun of my child. | 18 | 82 | 11 | 5 | 95 | 40 |
| 10. Children who are physically handicapped should be in special classes with children like themselves | 27 | 73 | 11 | 25 | 75 | 40 |
| 11. Some children need to be protected more than others. | 100 | 0 | 10 | 72 | 28 | 39 |
| 12. If another child attacks my child, I feel my child should fight back. | 64 | 36 | 11 | 67 | 32 | 40 |
| 13. When my child comes home from preschool he/she talks to me about the other children in the classroom. | 91 | 9 | 11 | 90 | 10 | 40 |
| 14. The other children tease my child a lot. | 0 | 100 | 11 | 0 | 100 | 40 |

| | Parents of Handicapped Children | | | Parents of Non-Handicapped Children | | |
|---|---|---|---|---|---|---|
| | % Agree | % Disagree | N | % Agree | % Disagree | N |
| Preschool programs should focus on making children independent. | 80 | 20 | 10 | 80 | 20 | 40 |
| All children in the same classroom should be learning the same skills. | 50 | 50 | 10 | 46 | 54 | 39 |
| My child's intelligence level (IQ) will increase because he/she is in preschool | 82 | 18 | 11 | 67 | 32 | 40 |
| I don't worry about my child picking up odd behaviors from other children in the classroom becausehe/she will probably outgrow them. | 20 | 80 | 10 | 83 | 18 | 40 |
| 19. Children who are physically handicapped learn better in classrooms with normal children. | 67 | 33 | 9 | 77 | 23 | 39 |
| Preschool programs focus on teaching children self-help skills. | 90 | 10 | 10 | 95 | 5 | 38 |
| 21 Children who are physically handicapped should be in classrooms with normal children only for certain activities. | 45 | 55 | 11 | 32 | 67 | 40 |
| My child gets pushed around a lot by the other children in the classroom. | 0 | 100 | 10 | 5 | 95 | 39 |
| 23. If my child gets into a fight with another child in school, the teacher should let them settle it by themselves | 0 | 100 | 11 | 18 | 83 | 40 |
| 24. My child needs me to stay with him/her at school | 0 | 100 | 11 | 3 | 97 | 39 |
| 25. Teachers should reward children for doing their work regardless of whether they do it well or not. | 63 | 38 | 8 | 54 | 46 | 39 |
| 26 There should be more teachers in my child's school | 30 | 70 | 10 | 41 | 59 | 39 |
| 27. I fear that my child will imitate the odd behaviors of other children in his/her school. | 10 | 90 | 10 | 25 | 75 | 40 |

| | Parents of Handicapped Children | | | Parents of Non-Handicapped Children | | |
|---|---|---|---|---|---|---|
| | % Agree | % Disagree | N | % Agree | % Disagree | N |
| My child spends most of her/his time in the classroom playing with toys by himself/herself. | 38 | 63 | 8 | 8 | 92 | 38 |
| My child is more independent than the other children. | 20 | 80 | 10 | 58 | 42 | 38 |
| The most important thing children learn in the preschool is how to get along with people | 91 | 9 | 11 | 85 | 15 | 40 |
| Children who are physically handicapped are more comfortable in classes with children who are like themselves. | 40 | 60 | 10 | 39 | 61 | 38 |
| 32. My child really enjoys the preschool. | 100 | 0 | 11 | 95 | 5 | 40 |
| The other children seem to be making more progress in school than my child. | 0 | 100 | 10 | 3 | 97 | 39 |
| 34. Learning the alphabet, colors, and numbers in school is more important than learning to get along with other children in the class. | 20 | 80 | 10 | 13 | 87 | 38 |
| Children who are physically handicapped should get the special additional attention they need even in a normal setting. | 91 | 9 | 11 | 82 | 18 | 39 |
| 36. Children who are physically handicapped need special toys and equipment so they can learn better. | 82 | 18 | 11 | 66 | 34 | 38 |
| 37. When my child is in school, he/she does not like to share with other children. | 40 | 60 | 10 | 13 | 87 | 38 |
| My child needs a lot of attention from the teacher. | 40 | 60 | 10 | 32 | 68 | 38 |
| Preschool programs make children more sociable. | 100 | 0 | 11 | 100 | 0 | 39 |
| 40. Sometimes my child doesn't want to go to school. | 18 | 82 | 11 | 36 | 64 | 39 |

Table 3

DIFFERENCES FOUND BETWEEN YEAR 1 AND YEAR 2 -- P.A.S.

| | Parents of Handicapped -- % Agree | |
|---|---|---|
| | Year I | Year II |
| 8. It is more important for preschool children to play together than to learn colors and numbers. | 33 | 55 |
| 16. All children in the same classroom should be learning the same skills. | 33 | 50 |
| 18. I don't worry about my child picking up odd behaviors from other children in the classroom because he/she will probably outgrow them. | 88 | 20 |
| 19. Children who are physically learn better in classrooms with normal children. | 50 | 67 |
| 31. Children who are physically handicapped are more comfortable in classes with children who are like themselves. | 63 | 40 |
| 37. When my child is in school, he/she does not like to share with other children. | 11 | 40 |
| 41. Children who are physically handicapped need specially designed classrooms. | 33 | 64 |
| 46. I am afraid that my child will get hurt in school. | 11 | 56 |

| | Parents of Non-Handicapped -- % Agree | |
|---|---|---|
| | Year I | Year II |
| 29. My child is more independent than the other children. | 32 | 58 |
| 37. When my child is in school, he/she does not like to share with other children | 36 | 13 |

Item 1

STAFF INTERVIEW - INTEGRATED SETTING

1. Do you feel most comfortable working with children in the preschool?

2. How do you feel about having a handicapped child in the group?

3. How would you feel about working with a few handicapped children in an "integrated" setting, as against working with an all-normal group?

4. What sort of handicaps make you most uncomfortable?

5. Do you feel the equipment, materials, and use of space in your classroom have been well conceived for this group of children?

   What changes would you make?

6. Do you feel it would be easier to handle a handicapped child if certain adaptations were made?

7. Do you have resource consultants available to your school?

8. What type of problems require their use, and with what frequency? Are they available frequently enough?

9. What are the curricular goals for your children? Do you think these would differ for a gorup of handicapped children? In what ways?

10. How do the children in your group react to the handicap of others? How do you handle comments on handicaps?

11. Are the parents of the children in your group available to you? Would you like more direct contact with them, or do you feel this is unnecessary? Do you feel enough is done to help them understand the children's strengths and weaknesses?

12. Are there differences in concern between the families of normal children and those of children with handicaps?

13. Do you feel the parents of the normal children are concerned about the inclusion of a handicapped child in the group?

14. What are some of the problems your families have in common, whether or not their children are normal or handicapped?

Item 2

STAFF INTERVIEW -- HANDICAPPED SETTING

1. We know you are involved in educating children. How and why did you select to work with only handicapped children?

2. How do you feel about working with them?

3. With what age child do you feel most comfortable?

4. What sort of handicaps make you most uncomfortable?

5. How would you feel about working with a few handicapped children in an "integrated" setting, as against working with an all-handicapped group?

6. Do you feel the equipment, materials and the use of space in your classroom has been well conceived to accommodate handicapped children?

   What changes would you make?

7. Do you think a classroom for "normal" children could easily accommodate some of the children in your class? What sort of adaptations would have to be made? Influenced by what type of handicap?

8. Do you have resource consultants available to your school?

9. What type of problems require their use, and with what frequency? Are they available frequently enough?

10. What are the curricular goals for your group of children? In what ways do these goals differ from those you would have for a comparable group of children without handicaps? How are they established?

11. How do the children in your school react to the handicap of others? How do you handle comments on handicaps?

12. Are the parents of the children in your group available to you? Would you like more direct contact with them, or do you feel this is unnecessary? Do you feel enough is done to help them understand the children's problems?

13. How realictic are the expectations of these families for their children?

14. What are some of the problems the families of these children have in common?

____8. Medical information that contributes to sound educational programs for exceptional children.

____9. Child development theory as it relates to exceptional children.

____10. Task demands of educational materials.

____11. Other:

Additional Comments: _____

_____

_____

Item 3

Staff Needs Assessment

1. What type of assistance (workshops, seminars, observation, participation, consultations) have you found most helpful to you/your assistants/your staff in your work:

   a. Observation of special programs for handicapped children/ discussions/goals

   b. Group discussion on attitudes toward handicapped

   c. Presentations related to assessment of preschool normal/ handicapped children using tapes, discussion

   d. Materials workshop - "Use of 'unstructured' materials for assessment/formulation of curricular goals"

   e. Materials workshop - "Use of 'structured' materials"

   f. Playground/Playroom observation - discussion/adaptations of outdoors learning experience related to outdoor play

   g. Use of multi-disciplined evaluation team for workshop

   h. Other:

2. Which of the following areas do you feel you would like to know more about in order to be more effective in your work? (Please grade the following numerically, indicating in left column "1" as subject of highest priority, "2" next highest, etc.).

   _____1. Developmental assessment of children and identification of problem areas.

   _____2. Establishment of individualized curricular goals.

   _____3. Modifications in the learning environment to meet the needs of exceptional children.

   _____4. Needed supportive service from medical and para-medical personnel.

   _____5. Available community resources.

   _____6. Parent involvement and participation in program.

   _____7. Procedures for integrating "exceptional" children into a "normal" setting.

# END

## DEPT. OF HEW

## NAT'L INSTITUTE OF EDUCATION

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## DATE FILMED

## MAY. 31. 1979